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**From:** Ohrel, Sara  
**To:** Lie, Sharyn; Camobreco, Vincent; Levy, Aaron  
**CC:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen; Cole, Jefferson  
**Sent:** 2/25/2014 8:06:05 AM  
**Subject:**  
**Attachments:** DRAFT Framework main report 2 25 14\_clean with comments OTAQ.docx

Hello everyone,

Attached you will find the updated draft biogenic assessment framework report for your review. We appreciate you offering your time and feedback on this draft report.

This is an internal EPA review only, so please do not share or cite this document or its contents outside your immediate office.

We ask that you send us your comments no later than 3/11/14. Please try to consolidate the comments from your team to help us with version control and our goal of ensuring that all comments will receive due consideration.

We have a kick-off call scheduled for tomorrow and I will schedule a post-review call to discussion your questions and comments.

Thank you again,

Sara on behalf of the CCD Biogenic Study Team

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

--this email is deliberative--do not distribute or cite--

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**From:** Ohrel, Sara  
**To:** Irving, Bill  
**CC:** Fawcett, Allen; Cole, Jefferson  
**Sent:** 2/24/2014 11:14:02 PM  
**Subject:** RE: final review of draft prior to internal EPA review: 4 items  
**Attachments:** DRAFT Framework main report 2 24 14\_clean with comments OTAQ.docx

Thanks again everyone for your efforts over the last few days. I incorporated Bill's edits (thanks again), and have been doing formatting and catching small errors. The attached version is what I will send OTAQ (and Robert Beach/RTI) as I respond to their questions and comments. Tomorrow am, I will take out all comment bubbles for the OAQPS/OGC draft doc, and send both along. At this point, I am too tired to give it one last look and be effective at doing so.

Thanks again,  
Sara

---

**From:** Irving, Bill  
**Sent:** Monday, February 24, 2014 9:00 PM  
**To:** Ohrel, Sara  
**Cc:** Fawcett, Allen; Cole, Jefferson  
**Subject:** RE: final review of draft prior to internal EPA review: 4 items

Here are my responses to the four areas you've flagged.

# Ex. 5 - Deliberative

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**From:** Ohrel, Sara  
**Sent:** Monday, February 24, 2014 4:17 PM  
**To:** Irving, Bill

**Cc:** Fawcett, Allen; Cole, Jefferson

**Subject:** final review of draft prior to internal EPA review: 4 items

Hi Bill,

I have 4 specific areas for your quick review per edits I have made per your comments last night. They are highlighted in green and can be found at:

## **Ex. 5 - Deliberative**

If you cannot review tonight, please let me know if I can move ahead or if you want me to wait until tomorrow.

I will send OTAQ a version that has comment bubbles (as I respond directly to some of their earlier comments/questions in the comment bubbles) and clean no comment versions to the rest of the reviewers.

Thanks,  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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---

**From:** Ohrel, Sara  
**To:** Irving, Bill  
**CC:** Fawcett, Allen; Cole, Jefferson  
**Sent:** 2/24/2014 1:06:53 PM  
**Subject:** RE: draft AF2 review  
**Attachments:** AF2 main body 2 23 14\_clean with comments (Repaired)\_ok - aaf (BI) so.docx

Thanks all.

I have incorporated most of your comments in the attached. There are few that we are still working on (like updating one of the figures and reaching out to Marcus).

BILL – there are edits I have made in response to your comments in the attached. They are highlighted in neon green. Please let me know if you can take a look at these edits, especially quotes from the SAB added on pages 2-3, this afternoon before 4pm.

THANK YOU!

---

**From:** Irving, Bill  
**Sent:** Sunday, February 23, 2014 9:34 PM  
**To:** Jefferson Cole; Allen Fawcett  
**Cc:** Ohrel, Sara; Fawcett, Allen; Cole, Jefferson  
**Subject:** RE: draft AF2 review

My comments up to page 30. I think the substantive text ends at around 42. Let me know if there would be value for me to try to finish tomorrow, or if I should wait until after OAQPS & OGC comments.

No major edits.

Bill

---

**From:** Jefferson Cole **Ex. 6 - Personal Privacy**  
**Sent:** Sunday, February 23, 2014 9:21 PM  
**To:** Allen Fawcett  
**Cc:** Ohrel, Sara; Fawcett, Allen; Irving, Bill; Cole, Jefferson; William N. Irving  
**Subject:** Re: draft AF2 review

Sara,

Thanks again for completing this draft for all of us. I know how much work it must have taken these past several days/weeks.

I've attached my comments only (no line edits) in addition to Allen's document. Nothing terribly extensive.

One tangential comment I have is that,

**Ex. 5 - Deliberative**

**Ex. 5 - Deliberative**

See you all tomorrow,

Jeff



On Sun, Feb 23, 2014 at 3:05 PM, Allen Fawcett [Ex. 6 - Personal Privacy](#) wrote:

Thanks everyone. I didn't have time for more than a quick skim through the first two sections, so just a few comments and one line edit (on page 16). Did my edits on a Mac, so might not want to add to this version. From my quick read through, this looks basically ready to move on to the next step. Great job!

Allen

On Sun, Feb 23, 2014 at 1:00 PM, Ohrel, Sara <[Ohrel.Sara@epa.gov](mailto:Ohrel.Sara@epa.gov)> wrote:

Thanks Jeff.

One clarification:  
tomorrow.

**Ex. 5 - Deliberative**

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**From:** Jefferson Cole [mailto:[Ex. 6 - Personal Privacy](#)]

**Sent:** Sunday, February 23, 2014 12:31 PM

**To:** Ohrel, Sara

**Cc:** Fawcett, Allen; Irving, Bill; Cole, Jefferson; [Ex. 6 - Personal Privacy](#) William N. Irving

**Subject:** Re: draft AF2 review

Thanks, Sara!

I am not 100% sure that I will be able to finish my review before 6pm, but I should be able to have it to you no later than 10pm.

Jeff

On Sunday, February 23, 2014, Ohrel, Sara <[Ohrel.Sara@epa.gov](mailto:Ohrel.Sara@epa.gov)> wrote:

Hello everyone,

Attached is the draft AF2. Sorry a little late (had a computer malfunction, of course, at 11:30). I have two versions attached: one with all recent tracked changes and comment bubbles (in case you want this for reference) and an updated one with only comments (no tracked changes). **Please use the 'clean with comments version' as I have made some updates since the tracked version.**

Items of note:

- now that we are using 'assessment factor', should this be the 'assessment framework'?
- this has older comments from OTAQ and RTI in which I answer/address comments. you do not need to look at/address this unless you want to/have time to do so.
- I have added comment bubbles specific for you with FLAG CCD or FLAG <specific person> so please be on the lookout for these comment bubbles.
- Part 5 conclusion is not drafted. I have left our reminder bullets in there for now, we can remove for internal review if you want, please let me know.

If you would like to work on this later than 6 pm, this is understandable, but PLEASE just let me know when you plan to email it back to me this evening, so I can be sure to download your comments before I leave tomorrow am for DC (5am).

I am available for any calls/email if needed today to discuss.

THANK YOU in advance for taking the time today to look at this.

---

**From:** Fawcett, Allen

**Sent:** Sunday, February 23, 2014 8:59 AM

**To:** Ohrel, Sara; Irving, Bill; Cole, Jefferson

**Cc:** Jefferson Cole; aafawcett; William N. Irving  
**Subject:** Re: draft AF2 coming your way later today

Thanks Sara. FYI, the Sarah meeting won't be Monday morning, it will have to move again as she and I will be at the State department for the CAR/BR in country review from 9:45-12:45 Monday.

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**From:** Ohrel, Sara  
**Sent:** Sunday, February 23, 2014 8:49:09 AM  
**To:** Irving, Bill; Fawcett, Allen; Cole, Jefferson  
**Cc:** Jefferson Cole; Allen Fawcett; William N. Irving  
**Subject:** draft AF2 coming your way later today

Hi team,

I will be sending the draft AF2 today, hopefully by or before noon. Now that the Sarah meeting has been moved to Monday 10am, if we still want to tell her that we sent this Monday am, I ask that you send me comments no later than 6 pm tonight so I can finish this draft tonight/am, aiming to get it out by 9:45am tomorrow J

Version control: This will be a concurrent review (apologies but cannot be helped), so I would like Bill to have the main pen (Bill and I already discussed this), that he use tracked changes to make inline edits to the text as needed. Allen and Jeff, if you do want to make line edits, please either highlight them in bright colors so I can find them or write them in a separate document, and I can insert it into the draft I get back from Bill.

Also, if you would like to see inline text edits for Monday's draft, please write specifically what text you are adding (as I do not anticipated having time to craft much new language pursuant to all your comments). If not imperative for Monday, please just flag with a comment bubble.

THANK YOU!  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Ohrel, Sara  
**To:** Fawcett, Allen  
**CC:** Cole, Jefferson  
**Sent:** 2/17/2014 3:52:38 PM  
**Subject:** draft main doc section on equation terms and equation - deliberative  
**Attachments:** AF2 main body 2 17 14.docx

Hi Allen,

Attached is the current main document draft. I am sending it along so that you can take a look specifically at what I have so far in the BAF equation terms and equation section – Section 4, starting on page 31. It is skeletal, but a first go for us to build upon. In a few places, I need to wait until we are finished with the subequation iterating that we are still currently doing before I can complete this.

You will soon have the opportunity to comment on the entire document but for now, please only focus on this section so you can let me know what else you would like to see included/removed here (and I am still working on a few other sections and need to clean it up, so again this is not ready for your full review).

Thanks,  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Irving, Bill  
**To:** Kocchi, Suzanne; Dunham, Sarah; Gunning, Paul  
**CC:** Krieger, Jackie; Fawcett, Allen  
**Sent:** 1/31/2014 11:57:09 AM  
**Subject:** Re: Biomass question

Following up on Suzie's note:

# Ex. 5 - Deliberative

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**From:** Kocchi, Suzanne  
**Sent:** Friday, January 31, 2014 10:55:48 AM  
**To:** Dunham, Sarah; Gunning, Paul  
**Cc:** Krieger, Jackie; Irving, Bill; Fawcett, Allen  
**Subject:** Re: Biomass question

Sorry for the delay - I was out back playing with my dog.

Also apologize if I wasn't clear -

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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**From:** Dunham, Sarah  
**Sent:** Friday, January 31, 2014 10:03:49 AM  
**To:** Kocchi, Suzanne; Gunning, Paul  
**Cc:** Krieger, Jackie; Irving, Bill; Fawcett, Allen  
**Subject:** Re: Biomass question

Ok--so just to confirm--

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## Ex. 5 - Deliberative

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**From:** Kocchi, Suzanne  
**Sent:** Friday, January 31, 2014 2:59:56 PM  
**To:** Dunham, Sarah; Gunning, Paul  
**Cc:** Krieger, Jackie; Irving, Bill; Fawcett, Allen  
**Subject:** Re: Biomass question

Ok that helps. We would have put in more thought exactly how it would work but the report is

## Ex. 5 - Deliberative

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**From:** Dunham, Sarah  
**Sent:** Friday, January 31, 2014 9:42:02 AM  
**To:** Kocchi, Suzanne; Gunning, Paul  
**Cc:** Krieger, Jackie; Irving, Bill; Fawcett, Allen  
**Subject:** Re: Biomass question

## Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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From: Kocchi, Suzanne  
Sent: Friday, January 31, 2014 2:32:49 PM  
To: Dunham, Sarah; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

Adding Bill and Allen b/c Bill and I are out today but Allen is in.

This isn't a direct answer to the question b/c it is not about scope - **Ex. 5 - Deliberative**

## Ex. 5 - Deliberative

Not sure exactly where this is coming from but just so you know - The staff is having another mtg with Anna's group today on the framework and how it works and we are briefing Anna herself on Tue. We have been trying to help them understand these issues.

Bill or Allen may have more to add.

---

From: Dunham, Sarah  
Sent: Friday, January 31, 2014 9:23:01 AM  
To: Gunning, Paul; Kocchi, Suzanne  
Cc: Krieger, Jackie  
Subject: Biomass question

## Ex. 5 - Deliberative

**From:** Kocchi, Suzanne  
**To:** Fawcett, Allen; Irving, Bill  
**Sent:** 1/31/2014 11:06:13 AM  
**Subject:** I am going to be away from my bb

For several hours - If we get more on this can one of pls respond.

Btw, I am obviously not explaining this clearly so I probably just stop anyway.

---

From: Kocchi, Suzanne  
Sent: Friday, January 31, 2014 10:55:48 AM  
To: Dunham, Sarah; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

Sorry for the delay - I was out back playing with my dog.

Also apologize if I wasn't clear -

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

---

From: Dunham, Sarah  
Sent: Friday, January 31, 2014 10:03:49 AM  
To: Kocchi, Suzanne; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

Ok--so just to confirm--

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

---

From: Kocchi, Suzanne  
Sent: Friday, January 31, 2014 2:59:56 PM  
To: Dunham, Sarah; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

Ok that helps.

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

---

From: Dunham, Sarah  
Sent: Friday, January 31, 2014 9:42:02 AM  
To: Kocchi, Suzanne; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

This is coming up

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

---

From: Kocchi, Suzanne  
Sent: Friday, January 31, 2014 2:32:49 PM  
To: Dunham, Sarah; Gunning, Paul  
Cc: Krieger, Jackie; Irving, Bill; Fawcett, Allen  
Subject: Re: Biomass question

Adding Bill and Allen b/c Bill and I are out today but Allen is in.

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

Not sure exactly where this is coming from but just so you know - The staff is having another mtg with Anna's group today on the framework and how it works and we are briefing Anna herself on Tue. We have been trying to help them understand these issues.

Bill or Allen may have more to add.

---

From: Dunham, Sarah  
Sent: Friday, January 31, 2014 9:23:01 AM  
To: Gunning, Paul; Kocchi, Suzanne  
Cc: Krieger, Jackie  
Subject: Biomass question

Is the conclusion we might be making

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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**From:** Ohrel, Sara  
**To:** Fawcett, Allen; Irving, Bill  
**CC:** Kocchi, Suzanne; Cole, Jefferson  
**Sent:** 1/31/2014 8:38:42 AM  
**Subject:** updated PPT  
**Attachments:** Biomass update with Anna and Paul 2 4 14\_draft 1 30v2.pptx

Hi all,  
Attached is an updated draft PPT for the Paul and Anna for your review, per conversations yesterday. My edits in green (slides 6 and 9, with a reordering of feedstocks on slide 6).  
Please let me know what else I can do to help with this,  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Ohrel, Sara  
**To:** Fawcett, Allen; Irving, Bill; Kocchi, Suzanne  
**CC:** Cole, Jefferson  
**Sent:** 1/30/2014 2:31:06 PM  
**Subject:** RE: PPT for Paul & Anna briefing Tuesday  
**Attachments:** Biomass update with Anna and Paul 2 4 14\_draft 1 30.pptx

Hi all,  
Here is the final (thanks for the last edits today, Suzie).  
Allen, please let me know if you need me to make a couple copies for you and Paul.  
Thanks!

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Ohrel, Sara  
**Sent:** Wednesday, January 29, 2014 8:49 PM  
**To:** Fawcett, Allen; Irving, Bill; Kocchi, Suzanne  
**Cc:** Cole, Jefferson  
**Subject:** RE: PPT for Paul & Anna briefing Tuesday

Thanks all. here is the updated draft. If you have further comments/edits, please send by noon tomorrow. If clear, please let us know, so Allen can proceed to share it with Paul at his weekly.

Thanks again,  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Fawcett, Allen  
**Sent:** Wednesday, January 29, 2014 4:52 PM  
**To:** Ohrel, Sara; Irving, Bill; Kocchi, Suzanne  
**Cc:** Cole, Jefferson  
**Subject:** RE: PPT for Paul & Anna briefing Tuesday

Thanks, this looks good. My only comment is on slide 9

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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**From:** Ohrel, Sara  
**Sent:** Wednesday, January 29, 2014 4:29 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**Cc:** Cole, Jefferson

**Subject:** RE: PPT for Paul & Anna briefing Tuesday

Thanks all. After Allen sends comments, I will clean it up and send around so he can share with Paul.

Also, Bill and & Allen, have you both had a chance to review the SAB response document?

Thanks,  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Irving, Bill  
**Sent:** Wednesday, January 29, 2014 4:19 PM  
**To:** Kocchi, Suzanne; Ohrel, Sara; Fawcett, Allen  
**Cc:** Cole, Jefferson  
**Subject:** RE: PPT for Paul & Anna briefing Tuesday

My comments attached.

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**From:** Kocchi, Suzanne  
**Sent:** Wednesday, January 29, 2014 1:40 PM  
**To:** Ohrel, Sara; Irving, Bill; Fawcett, Allen  
**Cc:** Cole, Jefferson  
**Subject:** RE: PPT for Paul & Anna briefing Tuesday

Thanks. These are good. I made a few minor text changes to try to simplify further and be more pointed in addressing some of Juan's points from yesterday. Bill will likely be able to simplify more. Also slightly changed the order.

Allen – Bill had his general already so I think you would be up to give this to Paul to let him take a quick look.

---

**From:** Ohrel, Sara  
**Sent:** Wednesday, January 29, 2014 12:31 PM  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**Cc:** Cole, Jefferson  
**Subject:** PPT for Paul & Anna briefing Tuesday

Hello,  
Could you please review and send edits on this PPT by 10am tomorrow? Suzie suggested that once we have this final, Allen or Bill could run it by Paul during their general meeting with him (prior to Tuesday's joint briefing).  
Thanks!

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Ohrel, Sara  
**To:** Kocchi, Suzanne; Kornylak, Vera S.; Irving, Bill; Fawcett, Allen; Santiago, Juan; Cole, Jefferson; Zenick, Elliott; Jordan, Scott; Wheeler, Carrie; Montanez, Jessica; Brooks, MichaelS; Mangino, Joseph; Smith, Eric; Wirth, Tom; Sherry, Christopher; Doster, Brian; Schmidt, Lorie  
**Sent:** 1/28/2014 12:02:55 PM  
**Subject:** Biogenic CO2 Accounting Framework: Staff Discussion  
**Attachments:** Biomass discussion with OAQPS 1 28 14f.pptx

Hello everyone,  
Attached are some slides for our discussion at 3pm today.  
Thanks!

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

--this email is deliberative--do not distribute or cite--

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**From:** Cole, Jefferson  
**To:** Ohrel, Sara; Kocchi, Suzanne; Irving, Bill  
**CC:** Fawcett, Allen  
**Sent:** 1/28/2014 11:21:07 AM  
**Subject:** RE: questions/ideas for tomorrow  
**Attachments:** Biomass discussion with OAQPS 1 28 14 v1 - Edits JC.pptx

Sara,

I think this looks good.

If only to belabor the main points that Suzie and Bill brought up, I've added a slide at the very beginning to try to make these things abundantly clear upfront of what the BAF is and is not.

Thanks,

Jeff

---

Jefferson Cole  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
cole.jefferson@epa.gov  
202.343.9671

---

**From:** Ohrel, Sara  
**Sent:** Tuesday, January 28, 2014 10:49 AM  
**To:** Kocchi, Suzanne; Irving, Bill  
**Cc:** Fawcett, Allen; Cole, Jefferson  
**Subject:** RE: questions/ideas for tomorrow

Ok crew – please review and see if this will work for today's discussion with OAQPS. Please send edits no later than 11:45am so I can revise if needed before printing Senate PPT copies and heading to the Hill.

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Kocchi, Suzanne  
**Sent:** Tuesday, January 28, 2014 9:44 AM  
**To:** Irving, Bill; Ohrel, Sara  
**Cc:** Fawcett, Allen; Cole, Jefferson  
**Subject:** RE: questions/ideas for tomorrow

I agree with Bill.

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# Ex. 5 - Deliberative

# Ex. 5 - Deliberative

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**From:** Irving, Bill  
**Sent:** Tuesday, January 28, 2014 9:32 AM  
**To:** Ohrel, Sara; Kocchi, Suzanne  
**Cc:** Fawcett, Allen; Cole, Jefferson  
**Subject:** RE: questions/ideas for tomorrow

Some thoughts below in CAPS. My recommendation is that we try to answer the questions as part of our presentation first, rather than go straight to them. If they still don't get it at that point, we can go through their questions one by one.

---

**From:** Ohrel, Sara  
**Sent:** Tuesday, January 28, 2014 8:39 AM  
**To:** Kocchi, Suzanne; Irving, Bill  
**Cc:** Fawcett, Allen; Cole, Jefferson  
**Subject:** FW: questions/ideas for tomorrow

Hi all,  
FYI - Below are some thoughts and questions from Jessica and Vera for today's discussion. My plan: I will pull from

# Ex. 5 - Deliberative

Sara

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**From:** Montanez, Jessica  
**Sent:** Tuesday, January 28, 2014 8:33 AM  
**To:** Ohrel, Sara  
**Cc:** Kornylak, Vera S.  
**Subject:** RE: questions/ideas for tomorrow

Hi Sara,

Does the plan below sound good? I am working from home today due to the possible snow event here in RTP, but I am accessible by phone [Ex. 6 - Personal Privacy](#) and email.

Jessica

Jessica Montañez  
Office of Air Quality Planning and Standards  
Air Quality Policy Division  
New Source Review Group  
109 TW Alexander Drive MD: C504-03 RTP, NC 27711  
Phone: 919-541-3407, Fax: 919-541-5509  
Note: Positions or views expressed here do not represent official EPA policy.

**From:** Montanez, Jessica  
**Sent:** Monday, January 27, 2014 5:06 PM  
**To:** Ohrel, Sara  
**Cc:** Kornylak, Vera S.  
**Subject:** RE: questions/ideas for tomorrow

Hi Sara,

Thanks. So are we still good with the following plan?

1. Us giving a brief introduction to the PSD program and refreshing our memories on the legal and policy constraints that we have.
2. You guys going over what you are expecting to deliver to us under the BAF approach
3. Q and A's

Some of the Q and A's that we have been thinking about are?

# Ex. 5 - Deliberative

Jessica Montañez  
Office of Air Quality Planning and Standards  
Air Quality Policy Division  
New Source Review Group  
109 TW Alexander Drive MD: C504-03 RTP, NC 27711  
Phone: 919-541-3407, Fax: 919-541-5509

Note: Positions or views expressed here do not represent official EPA policy.

Looking for a speaker for your school or community event? <http://www.epa.gov/rtpspeakings/>

---

**From:** Ohrel, Sara

**Sent:** Monday, January 27, 2014 3:55 PM

**To:** Montanez, Jessica; Kornylak, Vera S.

**Subject:** questions/ideas for tomorrow

Hi Jessica and Vera,

I will be putting together slides for tomorrow this evening – if you can forward to the list of questions/ideas that you have been brainstorming today, I will do my best to incorporate them.

Thanks!

Sara Bushey Ohrel

Climate Economics Branch

Climate Change Division

U.S. Environmental Protection Agency

Phone: (202) 343-9712

Cell: (202) 341-6748

--this email is deliberative--do not distribute or cite--

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**From:** Ohrel, Sara  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**CC:** Cole, Jefferson; Sherry, Christopher; Smith, Eric  
**Sent:** 1/27/2014 6:35:51 PM  
**Subject:** RE: Availability for a follow up meeting with SAF to discuss carbon accounting team activities with several team members in town  
**Attachments:** DRAFT Often overlooked scientific foundations for biogenic carbon accoun .pdf

Hi all,

Please let me know if you are interested in/available to meet with John Barnwell from SAF along with some former SAB members to discuss biogenic accounting.

Just to remind folks, last time they met with us was with John B from SAF and Reid Miner with Joe G in July 2013 and they presented some findings from preliminary work done with other former SAB panelists (Sedjo, Buford, Abt, Skog: see attached draft).

We can either meet with them (here in 1310 L Street):

- Wednesday at 4:45-5:30p, which would likely include Reid Miner, Bob Abt, Roger Sedjo and Marilyn Buford, along with non-SAB panelists like Bob Malmshemer and Bill Stewart
- Thursday 9-10am (all of the above except Reid Miner)

I can do either. I will let John know what we want to do in the am tomorrow.

Thanks!

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**From:** Ohrel, Sara  
**Sent:** Monday, January 27, 2014 9:14 AM  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**Cc:** Cole, Jefferson; Sherry, Christopher  
**Subject:** FW: Availability for a follow up meeting with SAF to discuss carbon accounting team activities with several team members in town

Hi all,

John Barnwell from SAF just left me a message following up on the email below to Jen and I asking if we would like to meet with some former members of the SAB panel (in bold below, if confirmed) while they are in town Weds-Friday this week for the RFF seminar on forestry this Wednesday (which I plan to attend). If we want to invite them here, I can arrange something Thursday.

Please let me know,

Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

--this email is deliberative--do not distribute or cite--

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**From:** John Barnwell [<mailto:barnwellj@safnet.org>]  
**Sent:** Tuesday, January 07, 2014 5:06 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara  
**Subject:** Availability for a follow up meeting with SAF to discuss carbon accounting team activities with several team members in town

Jen and Sara,



As you both know, SAF has been invested in the many issues and questions that surround carbon accounting and forest management. Our carbon accounting response team has finished the article they were working on when we last met. The article is currently being considered for publication following one round of reviewer edits.

I am working on a briefing sponsored by Resources for the Future and SAF on January 29<sup>th</sup> that will provide our team an opportunity to present the material in the report along with presentations by Bill Stewart who will discuss his recent work testing the assumptions built into carbon accounting models at the stand level, and Dave Cleaves talking about the important role of FIA in many of the questions related to carbon accounting and forest management. I've provided a synopsis of the event below, and I hope y'all can join us for the briefing.

I am excited that we will be able to have several members of the carbon accounting team in town, **Roger Sedjo**, Bob Malmshamer, and Reid Miner are confirmed with **Marilyn Buford**, **Ken Skog**, and **Bob Abt** also invited) for the briefing and available for meetings in DC. I would like to sit down you two and the other members of the team working on the framework on January 30<sup>th</sup> or 31<sup>st</sup> if possible to dig a little deeper into the work of the team and to give y'all the opportunity to see if these members can provide assistance as you all work to meet your deadlines.

I currently have no meetings scheduled on the 30<sup>th</sup> or 31<sup>st</sup>, so, I can work with you all to find a time that suits members of the team interested in participating in a meeting best.

**Wednesday, January 29th, 2014; 12:30 to 2:00 pm; location: RFF 1616 P Street NW, Washington DC, light buffet lunch begins at 12:30.**

### **Considering the Contributions of Forests in the Management of Greenhouse Gas Emissions**

#### Overview:

Responsible management of US temperate forests can play an important and ongoing role in climate change mitigation at a national and international scale. This first Wednesday briefing event co-sponsored by Resources for the Future (RFF) and the Society of American Foresters (SAF) on January 29th will delve into some of the questions that surround carbon accounting and forest management. The event, moderated by Resources for the Future Fellow Dr. Roger Sedjo, will feature presentations by Dr. David Cleaves explaining the integral role of the US Forest Service Forest Inventory and Analysis Program in determining carbon stocks; University of California at Berkeley Specialist, Dr. William Stewart, describing the results of his recent research comparing best practices and regulator's assumptions concerning the carbon profiles of managed forests and the harvested products from managed forests in Northern California; and Dr. Robert Malmshamer discussing the recent work of the Society of American Foresters Carbon Accounting Team to dissect the latest science underlying these discussions.

#### Participants

Moderator: Dr. Roger Sedjo, senior fellow at Resources for the Future and director of RFF's Forest Economics and Policy Program

In addition to biomass energy and carbon emissions accounting, Roger's interests include forests and global environmental problems, climate change and biodiversity, timber supply modeling, and land use change. He has written or edited 15 books related to natural resources and hundreds of peer reviewed papers. Sedjo has recently served on the EPA Scientific Advisory Board addressing questions of carbon regulations for biomass energy. Other relevant bioenergy activities include: service as the co-chair of the committee of authors who wrote the chapter on biological sinks for the Intergovernmental Panel on Climate Change's Third Assessment Report; representation of RFF on the Board of the Sustainable Forestry Initiative, which certifies the management practices of US forests; and participation on the Forest Service's Second Committee of Scientists.

#### Presenters:

Dr. David A. Cleaves, Climate Change Advisor to the Chief, USDA Forest Service

Dave serves the Chief, executive leadership, and the field by coordinating activities related to climate change adaptation, mitigation, and communication. He is the primary spokesperson for the Agency on the role of forests in

climate change and leads the implementation of the Forest Service's nationwide strategy for weaving climate change response into policies, processes, and partnerships. Dave was formerly the Deputy Administrator for the Agency's \$300 million Science and Technology Program consisting of 75 labs and 3000 employees at five regional research stations, the national Forest Products Lab, the Institute of Tropical Forestry, and 83 Experimental Forests.

Dave has a B.S. and M.S. from Michigan State University and a Ph.D. in economics from Texas A&M University.

Dr. William Stewart, Cooperative Extension Forestry Specialist with the University of California, Berkeley

Bill is the Co-Director of UC Berkley's Center for Forestry and Center for Fire Research and Outreach. He has a M.S. and Ph.D. in forest economics and policy from the University of California Berkeley and a B.S. in Environmental Earth Sciences from Stanford University. He was a co-author of "Managing Forests Because Carbon Matters: Integrating Energy, Products, and Land Management Policy" that was published as a special supplement of the Journal of Forestry in 2011. His research and extension work focuses on the linkages between managed forests and climate change, the interaction of land management and fires in Western interior forests, and succession planning with family forest owners.

Dr. Robert Malsheimer (PhD, JD), Professor at the State University of New York's College of Environmental Science and Forestry

Bob teaches courses in natural resources policy, environmental law, and natural resources law. His research focuses on how laws and the legal system affect natural resources management, including how carbon accounting policies affect forest and natural resources. Before becoming a professor, he practiced law for six years. Malsheimer is a SAF Fellow in the Society of American Foresters (SAF) and has twice chaired the SAF Committee on Forest Policy. In 2007, and again in 2011, he chaired SAF Task Forces that analyzed and synthesized the scientific literature for managing forests for carbon, product, energy, and environmental benefits.

Thanks and happy new year,

John

John R. Barnwell  
Director, Forest Policy  
Society of American Foresters  
O: 301-897-8720 ext. 300  
M: 301-526-7075  
[barnwellj@safnet.org](mailto:barnwellj@safnet.org)

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**From:** Irving, Bill  
**To:** Kocchi, Suzanne; Ohrel, Sara; Fawcett, Allen  
**Sent:** 1/20/2014 10:27:39 PM  
**Subject:** RE: DraftBiogenicCO2Updatefor01-22-2014v2.pptx  
**Attachments:** Biomass update for Sarah 01 23 2014v7 (BI).pptx

Revisions to the Sarah briefing.

Most of my edits were aimed at simplifying and making the new information less dense (less is more with Sarah). Please QA my additions for technical accuracy.

I moved some of the results text back to the appendix (and deleted a whole bunch more appendix slides). I think the qualitative tables along with the baseline discussion provide enough for Sarah, and we can go to the tables in the appendix if needed.

---

**From:** Kocchi, Suzanne  
**Sent:** Monday, January 20, 2014 9:42 PM  
**To:** Irving, Bill; Ohrel, Sara; Fawcett, Allen  
**Subject:** Re: DraftBiogenicCO2Updatefor01-22-2014v2.pptx

I don't have any comments beyond Bill's.

Does Paul know about this Janet mtg? Who's calendar is it on? Someone from CCD is going to have to go and/or at least call in.

---

**From:** Irving, Bill  
**Sent:** Monday, January 20, 2014 8:59:52 PM  
**To:** Ohrel, Sara; Kocchi, Suzanne; Fawcett, Allen  
**Subject:** RE: DraftBiogenicCO2Updatefor01-22-2014v2.pptx

Comments attached, mostly on just one slide.

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

Bill

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**From:** Ohrel, Sara  
**Sent:** Monday, January 20, 2014 10:53 AM  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**Subject:** FW: DraftBiogenicCO2Updatefor01-22-2014v2.pptx

Hi all,  
Attached you will find 2 PPTs: the one from Vera and one with my edits and additions per her request (on slides

4,5,10). Text on key updates to the framework and timing are derived from the draft Sarah briefing (which I sent to you all for your next round of edits on 1/16: that briefing is now scheduled for 1/22 as well).

Vera has asked that we send our additions by 11am Tuesday, so if you need me to change/edit anything per your comments, I would need this back no later than 10:30am Tuesday).

Lastly, to avoid overlap/version control issues in this tight timeframe, please shoot a note to this group when you are picking up the pen.

Thanks!

Sara

---

**From:** Kornylak, Vera S.

**Sent:** Friday, January 17, 2014 4:29 PM

**To:** Ohrel, Sara

**Cc:** Kocchi, Suzanne

**Subject:** DraftBiogenicCO2Updatefor01-22-2014v2.pptx

Sara –here's the first draft of the presentation (I haven't talked with Anna and I'm not sure if it's supposed to be a 'conversation' or 'presentation'). In any event, I saved a slide for OAP – you'll see it. I suspect things will happen quickly on Tuesday since the meeting is Wed. Sorry to get this to you so late but we've been working on a court ordered deadline petition order. If you can get back with me by 11am on Tuesday, that should be OK. As I said, it's possible the whole presentation may be scrapped...

Thanks,

Vera

---

**From:** Ohrel, Sara  
**To:** Irving, Bill; Fawcett, Allen  
**CC:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson; Sherry, Christopher  
**Sent:** 1/13/2014 11:12:03 AM  
**Subject:** RE: draft PPT slides for Monday's briefing  
**Attachments:** Biomass update for Sarah 1 15 2014 v5.pptx

Hi all,  
Here is the final version of the PPT for today. The results document will soon follow. I will bring copies.

---

**From:** Irving, Bill  
**Sent:** Monday, January 13, 2014 9:47 AM  
**To:** Ohrel, Sara; Fawcett, Allen  
**Cc:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Subject:** RE: draft PPT slides for Monday's briefing

Sara – no further comments. Tom doesn't need to attend. Allen's call on Eric, but it's certainly no problem either way for the Paul briefing.

---

**From:** Ohrel, Sara  
**Sent:** Monday, January 13, 2014 9:01 AM  
**To:** Irving, Bill; Fawcett, Allen  
**Cc:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Subject:** RE: draft PPT slides for Monday's briefing

Good morning everyone,  
Thank you for your comments, Bill. Here is the updated PPT. Please send any further comments by 10:30am so I can finish and send them around by 11am.  
Thanks!  
Sara

PS – should Tom W and Eric S be on the invite for today's Paul briefing? I did not see them on the initial invite (though they may have been added separately).

---

**From:** Irving, Bill  
**Sent:** Sunday, January 12, 2014 12:32 PM  
**To:** Ohrel, Sara; Fawcett, Allen  
**Cc:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Subject:** RE: draft PPT slides for Monday's briefing

Thanks for pulling this together. Overall it's looking much better, and I'll move on to the table next.

Some comments on the slides here in the email text rather than a revised version:

# Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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**From:** Ohrel, Sara  
**Sent:** Friday, January 10, 2014 3:34 PM  
**To:** Irving, Bill; Fawcett, Allen  
**Cc:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Subject:** draft PPT slides for Monday's briefing

Hello Allen and Bill,

Attached you will find the updated PPT for Monday's briefing with Paul, currently scheduled for 12:30pm. Please send any comments/edits that you have by 9:30am Monday so we have time to address/incorporate them and then send the final slides around to our expanded team biomass group before the briefing.

We will send the accompanying results document (with a summary of results and key insights, per Allen's comments) by the end of the day for your review as well.

Thank you, and have a nice weekend.  
Sara, Jeff and Jen

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Irving, Bill  
**To:** Fawcett, Allen; Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara  
**CC:** Cole, Jefferson  
**Sent:** 1/9/2014 11:54:32 AM  
**Subject:** RE: draft slides for Paul and accompanying results document  
**Attachments:** Biomass update for Sarah 1 13 2014\_sk\_bi.pptx

And here are my edits to the slides:

# Ex. 5 - Deliberative

Bill

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**From:** Fawcett, Allen  
**Sent:** Thursday, January 09, 2014 11:40 AM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Irving, Bill  
**Cc:** Cole, Jefferson  
**Subject:** RE: draft slides for Paul and accompanying results document

Here are my edits on the table. I think that this can be a really useful way to communicate the results of the

## Ex. 5 - Deliberative

it needs some work to clean it up and draw out those insights. My edits in this version are aiming for a document that will be useful for Paul, and will help me feel better that we really understand what's going on, but might need to be simplified a bit more for Sarah. I talked with Jeff a bit about my edits, and I think he'll take the pen next on this.

Allen

---

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, January 08, 2014 11:19 AM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Irving, Bill; Fawcett, Allen  
**Cc:** Cole, Jefferson  
**Subject:** RE: draft slides for Paul and accompanying results document

Alright – Bill, Allen and I just talked. We are going to use the Sarah D slot on Mon for Paul and then try to find a time next week for Sarah D. Don't worry about further follow up with Tina, Anne will handle it. Thanks.

Allen has the pen on the table. Bill has the pen on the slides.

---

**From:** Jenkins, Jennifer  
**Sent:** Wednesday, January 08, 2014 11:15 AM  
**To:** Kocchi, Suzanne; Ohrel, Sara; Irving, Bill; Fawcett, Allen

**Cc:** Cole, Jefferson

**Subject:** Re: draft slides for Paul and accompanying results document

After a caucus with team biomass, we are open to moving both briefings into next week. Our caveats though: they would have to be over by Weds because both Sara and I will be out on Thursday. I just mailed Tina to ask for time on Sarah's calendar next Wednesday.

Thx  
Jen

---

**From:** Jenkins, Jennifer

**Sent:** Wednesday, January 08, 2014 10:44:54 AM

**To:** Kocchi, Suzanne; Ohrel, Sara; Irving, Bill; Fawcett, Allen

**Cc:** Cole, Jefferson

**Subject:** RE: draft slides for Paul and accompanying results document

Thanks Suzie --

Based on your comments, I think we can turn around another draft by COB (6ish) today. I can work on this from 2 to 3 today, and then I can return to it between 5 and 6.

Bill and Allen, I can incorporate your major comments if you can send them by 2; otherwise pls send minor comments by 5 and I'll try to put them in the next draft.

It sounds like we will need one more round of review before going to Paul. If Team Biomass gets you the next draft by 6 pm, can you re-review before the briefing tomorrow (is it still on for 1 pm)? If not, can we move the Paul briefing to Friday instead, and keep the Sarah one for Monday?

thanks  
Jen

---

**From:** Kocchi, Suzanne

**Sent:** Wednesday, January 08, 2014 9:29 AM

**To:** Ohrel, Sara; Irving, Bill; Fawcett, Allen

**Cc:** Jenkins, Jennifer; Cole, Jefferson

**Subject:** RE: draft slides for Paul and accompanying results document

Here are my comments on the slides. The overall comment is we need to update and tailor this briefing to reflect where things stand today and a little bit better and make sure it is clear what we heard last and the very good collaboration you have going with the other offices. Also, where it is technical in some places it needs to be higher level.

For the results table in Word, that is kind of complicated for Paul and could take a lot of time to go through, that said, if you add the simplified tables to the briefing like I am suggesting that will help. Allen and Bill might have an idea for simplifying the one pager further (perhaps just deleting all the columns except the final number?) I think Paul would be

## Ex. 5 - Deliberative

Finally, if you can't make all of the edits before you brief Paul it may be that you push the Paul briefing to Mon and have Tina find time on Wed or Thur for Sarah? It probably doesn't hurt to have Anne start on that and at least identify and hold the time.

## Ex. 5 - Deliberative

Bill, Allen? Who is taking the pen?



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**From:** Ohrel, Sara  
**Sent:** Tuesday, January 07, 2014 6:15 PM  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**Cc:** Jenkins, Jennifer; Cole, Jefferson  
**Subject:** draft slides for Paul and accompanying results document

Hello Suzie, Bill and Allen,

Attached you will find the draft slide package for Paul/Sarah and a word document that has **Ex. 5 - Deliberative**

**Ex. 5 - Deliberative** We welcome your feedback and edits on both, especially on slide 12 in the PPT and whether you want less numbers/detail in the results word document.

Thanks,

Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

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**From:** Gunning, Paul  
**To:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/20/2013 2:11:44 PM  
**Subject:** Fw: ENGO fact sheet & letter on biomass carbon accounting  
**Attachments:** Biomass Energy Claims and Responses.pdf; ENGO letter on biomass carbon accounting.pdf

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**From:** Dunham, Sarah  
**Sent:** Friday, December 20, 2013 1:40:51 PM  
**To:** Gunning, Paul; Kocchi, Suzanne  
**Cc:** Krieger, Jackie  
**Subject:** FW: ENGO fact sheet & letter on biomass carbon accounting

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**From:** Goffman, Joseph  
**Sent:** Friday, December 20, 2013 1:38 PM  
**To:** Dunham, Sarah; Wood, Anna  
**Subject:** Fw: ENGO fact sheet & letter on biomass carbon accounting

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**From:** Lyutse, Sasha <[slyutse@nrdc.org](mailto:slyutse@nrdc.org)>  
**Sent:** Friday, December 20, 2013 1:34:08 PM  
**To:** Goffman, Joseph  
**Cc:** Browne, Cynthia  
**Subject:** ENGO fact sheet & letter on biomass carbon accounting

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Dear Mr. Goffman,

On behalf of the Center for Biological Diversity, Clean Air Task Force, National Wildlife Federation, Natural Resources Defense Council, Partnership for Policy Integrity, and the Southern Environmental Law Center, attached please find a fact sheet on Forest Biomass Energy: Common Claims & Responses, as well as a joint letter highlighting our concerns and recommendations with respect to EPA's development of a biomass carbon accounting system.

Thank you in advance for your time and attention. Please do not hesitate to contact me should you have any questions or require any further information from our organizations.

Kind Regards,

**Sasha Lyutse** | Policy Advocate | Natural Resources Defense Council  
Office: 212.727.4603 | Cell: 347.237.6685 | 40 West 20th Street, New York, NY 10011  
[slyutse@nrdc.org](mailto:slyutse@nrdc.org) | [www.nrdc.org](http://www.nrdc.org)  
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SAVE PAPER. THINK BEFORE PRINTING.

## **Forest Biomass Energy: Common Claims & Responses**

**Claim:** Biomass energy is always “carbon neutral”.

**Response:** Five of the most well regarded studies on bioenergy carbon accounting, summarized in Appendix A, find that most forest biomass is not carbon neutral. In particular, the studies find that burning chipped-up whole trees and large “residues” (such as limbs and stumps) in power plants causes a net increase in carbon emissions relative to fossil fuels that lasts from 35 to 100 years, or more. This is true even if the trees are replanted immediately, and without considering the impacts of displacing competing demand for wood.

**Claim:** Biomass energy is “carbon neutral” as long as growth rates exceed harvest in a particular forest.

**Response:** This ignores the effect of harvesting trees for fuel on future carbon stocks. Harvesting live trees that otherwise would have continued growing and removing CO<sub>2</sub> from the atmosphere incurs a long “carbon debt” by reducing the forest’s current standing carbon stocks, and by reducing the forest’s future carbon storage capacity.<sup>i</sup> The best available science shows that it can take decades or centuries before regrowth in a harvested forest achieves the same CO<sub>2</sub> storage that would have been achieved by leaving the forest unharvested. (The recovery period depends on harvest intensity, frequency, and forest characteristics).<sup>ii</sup> This long “carbon debt” remains even counting the emissions from fossil fuel burned in lieu of biomass.

Further, comparisons of growth rates to harvest rates depend entirely on the forest area selected for analysis, and so results can be arbitrary, misleading, and easily manipulated. EPA proposed this approach in its draft framework for biomass carbon accounting, but EPA’s own case studies showed a given biomass facility could be found to have different net CO<sub>2</sub> emissions impacts based solely on differences in the landscape scale chosen for analysis.<sup>iii</sup> EPA’s science advisors called this a “central weakness” of the framework—one lacking a sound scientific basis.<sup>iv</sup>

**Claim:** Biomass energy is “clean”.

**Response:** In addition to emitting more CO<sub>2</sub> compared to fossil fuels, power plants and industrial sources burning biomass typically emit higher amounts of health-endangering pollutants, such as fine particles (soot), than comparable fossil-fuel burning sources.

**Claim:** The bioenergy industry relies almost exclusively on residues from existing logging operations.

**Response:** Discussion of “residues” is complicated because there is no common definition of what is a “residue.” Furthermore, it is difficult to know what is being harvested for biomass fuels, because loggers chip harvested materials in the field. Some bioenergy facilities clearly are using whole trees and bole wood (the lower section of the trunk of a tree from the ground to the first limb or branch that is of substantial diameter) for fuel. For instance, aerial photographs of facilities such as the McNeil biomass power plant in Vermont show logs piled for fuel. Several companies, including

Dominion Energy<sup>v</sup> and Covanta<sup>vi</sup>, have acknowledged that they include whole trees in the fuel burned at their facilities.

The evidence is unambiguous that logging of whole trees is occurring in natural forests with high carbon stocks, expressly for production of wood pellets, most intended for export for combustion in foreign power plants. Recent investigative reports by the Wall Street Journal<sup>vii</sup> and BBC<sup>viii</sup> have documented that Enviva, the largest wood pellet exporter in the Southern US, is sourcing at least some of its wood from logging companies that clearcut portions of wetland forests in the Mid-Atlantic Coastal ecoregion, some with trees more than 100 years old. Photos taken near Enviva's flagship facility show a log yard full of whole tree trunks, many of which have bases measuring up to roughly two feet in diameter, indicating that they were mature trees harvested from wetland forests (see Appendix B).

**Claim: New markets for trees as fuel will slow conversion of forests to farms or development.**

**Response:** This claim assumes that the marginal income from sales of trees for fuel will keep landowners from converting forests to cropland or selling it for development. However, only a small portion of America's forest lands lies on the fringes of agricultural and urban development and faces conversion pressures. Furthermore, biomass for fuel is almost always one of the lowest-value products a forest produces. In most wood markets and forecasts, biomass fuel prices are comparable to or less than pulpwood prices—the lowest value product class. Because income from biomass is low relative to the income landowners on the urban fringe can make from land sales to developers, biomass markets are unlikely to significantly affect the economics driving forest loss to development.

Where they already exist, biomass markets are actually facilitating land-clearing for purposes such as agriculture and development. If biomass prices rise with increasing biomass use, the volume of materials obtained from land-clearing is expected to grow. For example, in its Billion Ton Update, the Department of Energy includes so-called 'other removals' (materials from land-clearing for roads and development) in its estimates of 'new' sources of woody biomass.<sup>ix</sup> At \$80 ton (delivered), over ten million tons of other removals are expected to be available.<sup>x</sup>

**Claim: Biomass harvesting to produce wood pellets and associated residues is already required to comply with multiple laws and regulations to ensure sustainability.**

**Response:** Current laws and regulations do not prevent pellet producers, located primarily in the Southern US and mostly serving export markets, from harvesting live trees and reducing the forest's future carbon storage capacity. Large-scale clearcutting is routine. Current practices are creating a large and growing carbon debt by removing trees that would otherwise continue to grow and sequester CO<sub>2</sub>. Premature second harvests, before trees have fully regrown, are likely to exacerbate this carbon debt problem. While laws and regulations vary by region, they do not prevent reharvest of forestlands before the age when on-site carbon storage would recover to the levels associated with non-harvest. There are no laws or regulations that protect mature or old growth forests (important carbon stocks) and endangered forests. Conversion of natural forest ecosystems to plantations is permitted throughout the region and is typically carried out with the extensive use of chemical herbicides. Wetland logging is permitted. There are no protections for species and their habitats aside from the federal Endangered Species Act, which comes into play only after a species is threatened or endangered with extinction. Even in states like California with well-developed private timber harvesting regulations, there are no basic regulatory standards addressing the environmental impacts of increased biomass removal on habitat, water quality, wildlife, soils, and soil carbon.<sup>xi</sup>

## **APPENDIX A – SUMMARY OF STUDIES ON BIOENERGY CARBON ACCOUNTING**

### **Manomet Center for Conservation Sciences, *Biomass Sustainability and Carbon Policy Study*, June 2010**

Link to study: <http://www.mass.gov/eea/docs/doer/renewables/biomass/manomet-biomass-report-full-hirez.pdf>

The Manomet Center study, commissioned by the Massachusetts Department of Energy Resources, examines greenhouse gas emissions from biopower by developing a “business-as-usual” baseline. It then compares different scenarios in which electricity is created either from woody biomass or fossil fuels. It calculates the “carbon debt” incurred by burning forest biomass and then models how re-growth of the harvested forest removes this carbon from the atmosphere, reducing the carbon debt.

The authors conclude that using whole trees as a source of biomass would increase emissions compared to coal power and other fossil fuels for at least 40 years. This finding emphasizes the importance of netting carbon debits and credits over a reasonable period, and taking into account both the source of biomass and management practices on the land from which biomass is sourced.

### **Oregon State University, *Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis*, May, 2011**

Link to study: [http://docs.nrdc.org/energy/files/ene\\_13041704a.pdf](http://docs.nrdc.org/energy/files/ene_13041704a.pdf)

The study looks at the lifecycle carbon emissions impacts of different levels of thinning on forest plots in eastern and western Oregon. It finds that far from providing a “carbon neutral” fuel source, forest thinning increases net carbon emissions to the atmosphere for more than 50 years, even accounting for tree re-growth and the carbon emissions avoided when thinnings are used as biomass to displace fossil fuels. Carbon losses on-site account for the bulk of the effect of thinning on carbon. These results hold for multiple kinds of thinning operations across a wide spectrum of forest locations and types in the Pacific Northwest. And while carbon stocks in the forest can, in time, rebound, it may be many centuries or longer before carbon stocks in a thinned forest catch up to one left unlogged.

### **The Biomass Energy Resource Center, Forest Guild, and Spatial Informatics Group, *Biomass Supply and Carbon Accounting for Southeastern Forests*, February 2012**

Link to study: <http://www.southernenvironment.org/uploads/publications/biomass-carbon-study-FINAL.pdf>

This study used a similar methodology to that employed by researchers at Manomet and reached conclusions consistent with the Northeast-focused study. The authors assessed the energy demand of 22 proposed biopower facilities including six pellet export mills in the Southeastern US and modeled how the carbon emissions impacts of meeting that demand by burning biomass would compare to using coal or natural gas. They found that based on current trends, biomass energy in the Southeast would produce higher levels of atmospheric carbon for 35 to 50 years compared to fossil fuels. This period is the years necessary for the biopower facilities to pay back their initial carbon “debt” relative to fossil fuels. It is only after this payback period that biopower results in lower atmospheric carbon than fossil fuels.

### **Duke University and Oregon State University, *Carbon debt and carbon sequestration parity in forest bioenergy production*, May 2012**

Link to study: <http://onlinelibrary.wiley.com/doi/10.1111/j.1757-1707.2012.01173.x/abstract>

This study assesses 1,764 unique combinations of ecosystem properties, initial landscape conditions, harvest frequencies, and bioenergy conversion factors. The authors conclude that regardless of land-use history and ecosystem characteristics, most scenarios required well over 100 years to reach “carbon neutrality”.

According to these findings, harvesting with greater frequency and intensity lowers carbon storage and prolongs the time needed to repay the carbon debt incurred when forest biomass is burned for electricity. Harvests performed at lower frequency (50, 100 years) and intensity (50% harvest) required less time to reach “carbon neutrality”; partial harvests (50% harvest) performed every 25 years appeared to reach this point more rapidly than any other management regime. Harvesting frequency and intensity appeared to affect all ecosystems similarly. Without exception, clear-cuts every 25 years resulted in the greatest reduction in carbon storage and required the longest periods to achieve “carbon neutrality”, suggesting that attempts to generate bioenergy from forests would be most effective in substituting for fossil fuels when managed for moderate amounts of production over a long time scale.

**Dartmouth College, *Mineral soil carbon fluxes in forests and implications for carbon balance assessments*, January 2013**

Link to study: <http://onlinelibrary.wiley.com/doi/10.1111/gcbb.12044/abstract>

Multiple previous studies have focused on emissions of the carbon that’s stored in above-ground biomass (i.e. tree trunks, limbs, etc.) when that biomass is burned in a power plant. This most recent study looked at the carbon stored deep in forest soils and what happens to it when forest biomass is harvested to supply fuel for energy production. The study concludes that harvesting forests intensively disturbs the carbon in the soil, releasing large quantities of carbon dioxide into the atmosphere—carbon that is additional to what’s emitted at the smokestack when woody biomass is burned for electricity generation. The results suggest that increased reliance on wood may have the unintended effect of increasing the transfer of carbon from the mineral soil to the atmosphere, undermining the intended goal of reducing atmospheric carbon. According to the researchers, forest carbon analyses are incomplete unless they include deep soil, which stores more than 50% of the carbon in forest soils.

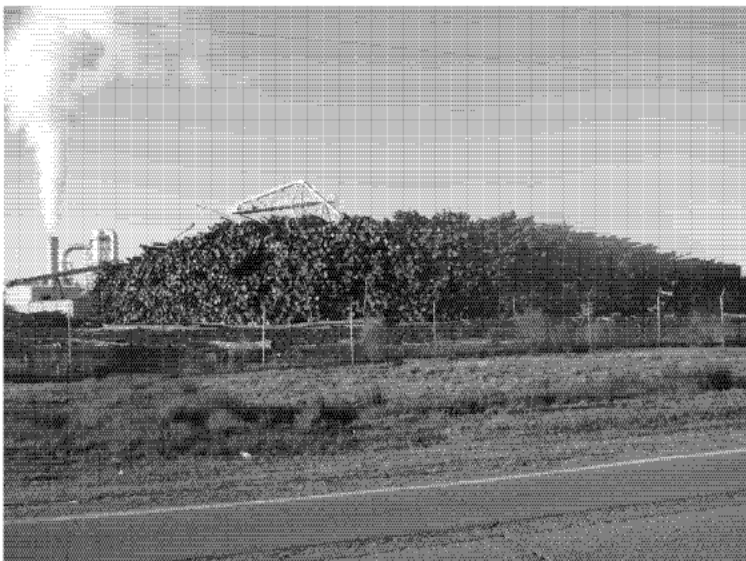
**APPENDIX B – PHOTOS OF ENVIVA AHOSKIE, NC FACILITY**



*Log pile at Enviva facility in Ahoskie, NC; photo credit SELC, 5/22/13*



*Log pile at Enviva facility in Ahoskie, NC; photo credit SELC, 3/13/13*



*Enviva facility in Ahoskie, NC; photo credit SELC, 3/13/13*

<sup>i</sup> Bjart Holtsmark, *The outcome is in the assumptions: analyzing the effects on atmospheric CO<sub>2</sub> levels of increased use of bioenergy from forest biomass*, Global Change Biology Bioenergy (2012), doi: 10.1111/gcbb.12015 ("Taking into account that harvest usually takes place in stands that are still growing, the baseline scenario becomes important. . . . [T]he harvest scenario should be measured against a baseline scenario (with no harvest) in which the trees are still growing, thus capturing CO<sub>2</sub> from the atmosphere.").

<sup>ii</sup> See, e.g., Stephen R. Mitchell, et al., *Carbon debt and carbon sequestration parity in forest bioenergy production*, Global Change Biology Bioenergy (2012), doi: 10.1111/j.1757-1707.2012.01173.x; John L. Campbell, et al., *Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions?* Front. Ecol. Env't (2011), doi:10.1890/110057; Tara Hudiburg, et al., *Regional carbon dioxide implications of forest bioenergy production*, Nature Climate Change (2011), doi: 10.1038/NCLIMATE1264; Timothy D. Searchinger, et al., *Fixing a Critical Climate Accounting Error*, 326 Science 527 (2009).

<sup>iii</sup> EPA concluded that a wood-fired biomass energy facility in New Hampshire would be found to increase atmospheric CO<sub>2</sub> levels based on an assessment of New Hampshire's forests, but would be found to have no net effect on CO<sub>2</sub> levels based on an assessment of forests throughout the Northeast. U.S. EPA, Accounting Framework for Biogenic CO<sub>2</sub> Emissions from Stationary Sources 75 (Sept. 2011).

<sup>iv</sup> See Science Advisory Board Review of EPA's Accounting Framework for Biogenic CO<sub>2</sub> Emissions from Stationary Sources (Sept. 28, 2012) at 2, 5-6, 17, 20, 27-29, 40.

<sup>v</sup> Pamela F. Faggert, Dominion Resources Services, Inc. Comments to the Science Advisory Board biogenic carbon emissions panel on its draft advisory report regarding EPA's accounting framework for biogenic CO<sub>2</sub> emissions from stationary sources. March 16, 2012.

<sup>vi</sup> Other Renewable Energy Projects, Covanta website, (<http://www.covantaenergy.com/what-we-do/our-services/other-renewable-energy.aspx>); also, <http://www.covantaenergy.com/what-we-do/our-services/other-renewable-energy.aspx>.

<sup>vii</sup> See: <http://online.wsj.com/news/articles/SB10001424127887324082604578485491298208114>

<sup>viii</sup> See: <http://www.bbc.co.uk/news/science-environment-22630815>

<sup>ix</sup> The DOE's Billion Ton Update details the common practice of using materials from land-clearing operations as biomass. [http://www1.eere.energy.gov/bioenergy/pdfs/billion\\_ton\\_update.pdf](http://www1.eere.energy.gov/bioenergy/pdfs/billion_ton_update.pdf)

<sup>x</sup> [http://www1.eere.energy.gov/bioenergy/pdfs/btu\\_forest\\_biomass.pdf](http://www1.eere.energy.gov/bioenergy/pdfs/btu_forest_biomass.pdf)

<sup>xi</sup> Ken Pimlott, Director, CalFire, Letter to Adam Schultz, California Public Utilities Commission, Re: Forest Sustainability and Feedstock Verification Recommendations at 3(Nov. 22, 2013), available at <http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=12376>.



December 20, 2013

Mr. Joe Goffman  
Senior Counsel, Office of Air and Radiation  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Mail Code: 6101A  
Washington, DC 20460

Dear Mr. Goffman:

We very much appreciated the opportunity to meet with you and EPA staff working to finalize biogenic carbon accounting rules on December 6<sup>th</sup>. We would like to take this opportunity to underscore some of our central concerns and recommendations.

The Clean Air Act does not permit EPA to consider lifecycle or “net” biogenic CO<sub>2</sub> emissions in determining whether a particular source must obtain a prevention of significant deterioration (PSD) or Title V permit (i.e., in making an applicability determination based on the source’s potential to emit CO<sub>2</sub>). However, EPA may be able to take account of the lifecycle CO<sub>2</sub> emissions associated with various biomass feedstocks, as well as options for increasing end use efficiency at particular facilities, when determining Best Available Control Technology (BACT). We believe EPA must replace its March 2011 bioenergy BACT guidance with new guidance (after notice and comment) setting forth a biogenic CO<sub>2</sub> accounting system that accurately reflects the lifecycle characteristics of different biomass fuels in light of scientific understandings described below.

Although BACT determinations must be made on a case-by-case basis, EPA’s guidance could usefully provide permitting agencies with relevant information as to the lifecycle CO<sub>2</sub> emissions associated with various types of biomass fuels. Step one of the top-down BACT analysis requires consideration of a wide range of emissions control options, including inherently lower-emitting “clean fuels.” Whether any particular type of biomass fuel can be considered a “clean fuel” for purposes of BACT for CO<sub>2</sub> depends on accurate accounting of its carbon emission impacts on a lifecycle basis. (Many forms of biomass must be disqualified from consideration as “clean fuels” because they produce even higher emissions of conventional pollutants than fossil fuel alternatives.) With respect to CO<sub>2</sub>, it is possible that some biomass types could show lower net CO<sub>2</sub> emissions over time in comparison to other types of biomass or to fossil fuels. Accurate characterization of lifecycle CO<sub>2</sub> emissions would enable permitting agencies to compare the emissions of different types of biomass fuels, or to compare the emissions of particular biomass fuels with fossil fuels, and thus to ensure that each facility uses the lowest-emitting available fuel. Permits also must include enforceable mechanisms to monitor and verify a source’s use of any low-emitting fuels identified as BACT.

In developing a credible accounting system for biogenic CO<sub>2</sub>, we believe EPA must be guided by key recommendations of its Science Advisory Board (SAB) panel. As the panel concluded, biomass combustion cannot be considered *a priori* “carbon neutral”.

The net lifecycle CO<sub>2</sub> emissions of various biomass fuels depend on many factors, including forest regrowth rates, natural decomposition, changes in soil carbon, and potential differences between “open-loop” and “closed-loop” applications. The panel also rejected EPA’s draft framework proposal to use a single reference point baseline based on a regional characterization of overall land-based carbon stocks. As the panel explained, a single reference point baseline would produce arbitrary results and allow facilities to offset their emissions by pointing to forest growth that would have occurred anyway.

We further believe that the SAB panel’s critique is likewise relevant to a similar approach developed by the Environmental Defense Fund (EDF) subsequent to EPA’s original framework. As we understand it, EDF’s approach would assess biogenic carbon benefits relative to periodically-updated inventories of regional carbon stocks, and issue (and re-issue) permits to bioenergy facilities based on their marginal impact on the so-called ‘headspace’ between current carbon stocks and carbon stocks in the most recent, periodically-updated inventory. We appreciate EDF’s effort to develop a simple system for evaluating biomass carbon emissions impacts of covered sources. But we must stress our concern that this approach suffers the same critical flaw as the single reference point baseline approach proposed by EPA in its draft framework: it fails to assess biogenic carbon impacts of harvesting and burning biomass for energy relative to the carbon stocks that would have existed absent bioenergy production. We also believe that EDF’s approach could well have the unintended consequence of reducing regional carbon stocks to prior inventoried levels, thus eliminating the growth in carbon stocks that is happening in some regions of the country.

There is broad scientific agreement that global greenhouse gas emissions must begin to decline before the end of this decade, and continue to decline sharply thereafter, in order to avoid the worst of climate change. Burning some forms of biomass—particularly whole trees and larger woody “residual” materials—increases atmospheric CO<sub>2</sub> concentrations relative to fossil fuels for decades. Accordingly, we believe it is critical that EPA develop a scientifically credible accounting methodology for biogenic CO<sub>2</sub> in order to ensure that uses of biomass fuels are truly climate beneficial in the critical near term. As the SAB’s final report concluded, comparing carbon emissions impacts using an “anticipated future” baseline is the only way to gauge the incremental CO<sub>2</sub> emissions impact of woody biomass harvesting and ensure that only carbon sequestration that would not have happened anyway is credited against smokestack emissions.

We thank you again for your time and consideration. Please do not hesitate to contact us if there is any additional information we can provide you and/or to discuss these issues further.

Sincerely,

Center for Biological Diversity  
Clean Air Task Force  
National Wildlife Federation  
Natural Resources Defense Council  
Southern Environmental Law Center

---

**From:** Jenkins, Jennifer  
**To:** Ohrel, Sara; Irving, Bill; Kocchi, Suzanne  
**CC:** Cole, Jefferson; Fawcett, Allen  
**Sent:** 12/18/2013 1:02:37 PM  
**Subject:** RE: updated certification one pager  
**Attachments:** Certification one pager v5 jcy.docx; Feedstocks of interest to AFPA v3.docx

Thanks Sara –

Here are some comments on the certification piece, and what I hope is the final version of the BL piece (I accepted all of Suzie's changes, so the tracked changes here are ones I made on top of Suzie's edits after our Team Biomass meeting today).

I think we're trying to get both of these in Paul's hands before the end of the day.

Jen

---

**From:** Ohrel, Sara  
**Sent:** Wednesday, December 18, 2013 11:06 AM  
**To:** Irving, Bill; Kocchi, Suzanne  
**Cc:** Jenkins, Jennifer; Cole, Jefferson; Fawcett, Allen  
**Subject:** updated certification one pager

Hi all,  
I am running off to a meeting but wanted to get this into Bill and Suzie's hands for review/feedback. Please send any comments/edits and I can address them this afternoon.  
Thanks!  
Sara

Sara Bushey Ohrel  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
Phone: (202) 343-9712  
Cell: (202) 341-6748

---

**From:** Ohrel, Sara  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Irving, Bill; Fawcett, Allen  
**CC:** Cole, Jefferson; Sherry, Christopher  
**Sent:** 12/17/2013 8:43:03 AM  
**Subject:** RE: materials for 9 am meeting tomorrow  
**Attachments:** Certification one pager v4.docx; StateRPSData\_WoodyBiomass\_121713\_7am\_SO.xlsx

Hi all,

Attached you will find the draft certification one pager and underlying spreadsheet (data on state programs. Major kudos to Robert Beach from RTI for pulling the latter together in less than 16 hours).

---

**From:** Kocchi, Suzanne  
**Sent:** Tuesday, December 17, 2013 8:37 AM  
**To:** Jenkins, Jennifer; Irving, Bill; Fawcett, Allen  
**Cc:** Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Subject:** RE: materials for 9 am meeting tomorrow

Perfect thanks. I have some edits to the AF&PA bullets, assuming all of my edits are correct and didn't change the meaning of anything.

---

**From:** Jenkins, Jennifer  
**Sent:** Monday, December 16, 2013 10:03 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**Cc:** Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Subject:** materials for 9 am meeting tomorrow

Folks:

I am attaching two things in preparation for our 9 am meeting tomorrow:

1. The current version of the main body of the text for AF2. In particular, we wanted to point out pages

## **Ex. 5 - Deliberative**

2. A half-pager that describes the current state of play for the feedstocks of particular interest to AF&PA.

### **Ex. 5 - Deliberative**

We also plan to provide to you before the meeting tomorrow:

3. A one-pager that describes the current state of play for forest certification, both third-party and state certification systems. This is what Sarah asked for so that we could bring it to the Gina briefing on Thursday.

Jeff is going to bring printed versions of these materials to the meeting, and Saera will send the certification piece via email in the morning. I will be calling in to the meeting from my car, as I'll be en route at that time.

thanks  
Jen

**From:** Ohrel, Sara  
**To:** Irving, Bill; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**CC:** Fawcett, Allen; Sherry, Christopher  
**Sent:** 12/13/2013 12:08:56 PM  
**Subject:** RE: Black liquor etc

Sorry I didn't respond to this one sooner - slipped through the email onslaught.

# Ex. 5 - Deliberative

-----Original Message-----

**From:** Irving, Bill  
**Sent:** Thursday, December 12, 2013 8:18 AM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** Re: Black liquor etc

Perhaps just semantics at this point, but isnt

Ex. 5 - Deliberative

Ex. 5 - Deliberative

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 11, 2013 8:04:21 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Irving, Bill; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** Re: Black liquor etc

Correct

Ex. 5 - Deliberative

Ex. 5 - Deliberative

Given these question you should

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

**From:** Jenkins, Jennifer  
**Sent:** Wednesday, December 11, 2013 7:02:27 PM  
**To:** Kocchi, Suzanne; Ohrel, Sara; Irving, Bill; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** Re: Black liquor etc

Just to note though --

Ex. 5 - Deliberative

Ex. 5 - Deliberative

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 11, 2013 3:10:52 PM  
**To:** Ohrel, Sara; Irving, Bill; Jenkins, Jennifer; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** RE: Black liquor etc

Cool thanks. I think as we move forward we definitely need to be clear about the distinction

## Ex. 5 - Deliberative

Right now, outside you guys, I think everyone is

Ex. 5 - Deliberative

Ex. 5 - Deliberative

-----Original Message-----

From: Ohrel, Sara

Sent: Wednesday, December 11, 2013 3:06 PM

To: Kocchi, Suzanne; Irving, Bill; Jenkins, Jennifer; Cole, Jefferson

Cc: Fawcett, Allen; Sherry, Christopher

Subject: RE: Black liquor etc

Good question: yes

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

-----Original Message-----

From: Kocchi, Suzanne

Sent: Wednesday, December 11, 2013 2:21 PM

To: Ohrel, Sara; Irving, Bill; Jenkins, Jennifer; Cole, Jefferson

Cc: Fawcett, Allen; Sherry, Christopher

Subject: RE: Black liquor etc

Just curious -

Ex. 5 - Deliberative

Ex. 5 - Deliberative

-----Original Message-----

From: Ohrel, Sara

Sent: Wednesday, December 11, 2013 2:12 PM

To: Irving, Bill; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson

Cc: Fawcett, Allen; Sherry, Christopher

Subject: RE: Black liquor etc

Exactly, Bill.

One clarification

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

-----Original Message-----

From: Irving, Bill

Sent: Wednesday, December 11, 2013 1:59 PM

To: Ohrel, Sara; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson

Cc: Fawcett, Allen; Sherry, Christopher

Subject: Re: Black liquor etc

Thanks. At the most general level, let me know if the following is correct;

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

From: Ohrel, Sara  
Sent: Wednesday, December 11, 2013 1:42:09 PM  
To: Kocchi, Suzanne; Irving, Bill; Jenkins, Jennifer; Cole, Jefferson  
Cc: Fawcett, Allen; Sherry, Christopher  
Subject: RE: Black liquor etc

One friendly amendment below:

Ex. 5 - Deliberative

Ex. 5 - Deliberative

-----Original Message-----

From: Kocchi, Suzanne  
Sent: Wednesday, December 11, 2013 1:30 PM  
To: Irving, Bill; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
Cc: Fawcett, Allen; Sherry, Christopher  
Subject: RE: Black liquor etc

The way Sara Ohrel described it the other day, I found useful. She said that

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

-----Original Message-----

From: Irving, Bill  
Sent: Wednesday, December 11, 2013 1:24 PM  
To: Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
Cc: Kocchi, Suzanne; Fawcett, Allen; Sherry, Christopher  
Subject: Black liquor etc

In my general with Paul he was concerned

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

**From:** Kocchi, Suzanne  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**CC:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/12/2013 12:44:48 PM  
**Subject:** RE: material for sarah for potential Admin mtg on biomass  
**Attachments:** Feedstock table for Janet and Admin mtg 12-12v2.docx

FYI – attached is the latest version of the feedstock table –

**Ex. 5 - Deliberative**

Sarah wanted Paul to have a copy with him (I already gave it to him) in case it comes up tomorrow with Janet (although we suspect it won't). Bill and I made a few minor text edits. Going forward for slide decks please use these versions so the edits are retained. Thanks!

---

**From:** Kocchi, Suzanne  
**Sent:** Thursday, December 12, 2013 12:24 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** material for sarah for potential Admin mtg on biomass  
**Importance:** High

In our conversation yesterday with Sarah, she said she wanted us to be prepared for questions Gina may have on **Ex. 5 - Deliberative** if the Admin briefing happens next Thur. As part of that, Sarah would like a ½ pager to a one pager that contains the following info:

1)  
2)  
3)  
4)

# Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

we can review and give to Sarah on Wed before the Gina mtg.

Thanks-  
Suzie



**From:** Irving, Bill  
**To:** Ohrel, Sara; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**CC:** Fawcett, Allen; Sherry, Christopher  
**Sent:** 12/11/2013 2:41:01 PM  
**Subject:** RE: Black liquor etc

Sara - thanks. I think is sufficient for the near term for Paul. Going forward, in combination with the "Elliott" exercise, one of our ongoing tasks will be to

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

-----Original Message-----

**From:** Ohrel, Sara  
**Sent:** Wednesday, December 11, 2013 2:12 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** RE: Black liquor etc

Exactly, Bill.

One clarification

Ex. 5 - Deliberative

# Ex. 5 - Deliberative

-----Original Message-----

**From:** Irving, Bill  
**Sent:** Wednesday, December 11, 2013 1:59 PM  
**To:** Ohrel, Sara; Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** Re: Black liquor etc

Thanks. At the most general level, let me know if the following is correct;

# Ex. 5 - Deliberative

From: Ohrel, Sara  
Sent: Wednesday, December 11, 2013 1:42:09 PM  
To: Kocchi, Suzanne; Irving, Bill; Jenkins, Jennifer; Cole, Jefferson  
Cc: Fawcett, Allen; Sherry, Christopher  
Subject: RE: Black liquor etc

One friendly amendment below:

**Ex. 5 - Deliberative**

**Ex. 5 - Deliberative**

-----Original Message-----

From: Kocchi, Suzanne  
Sent: Wednesday, December 11, 2013 1:30 PM  
To: Irving, Bill; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
Cc: Fawcett, Allen; Sherry, Christopher  
Subject: RE: Black liquor etc

The way Sara Ohrel described it the other day, I found useful. She said that

**Ex. 5 - Deliberative**

**Ex. 5 - Deliberative**

-----Original Message-----

From: Irving, Bill  
Sent: Wednesday, December 11, 2013 1:24 PM  
To: Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
Cc: Kocchi, Suzanne; Fawcett, Allen; Sherry, Christopher  
Subject: Black liquor etc

In my general with Paul he was concerned that

**Ex. 5 - Deliberative**

**Ex. 5 - Deliberative**

**From:** Kocchi, Suzanne  
**To:** Kocchi, Suzanne; Irving, Bill; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
**CC:** Fawcett, Allen; Sherry, Christopher  
**Sent:** 12/11/2013 1:34:11 PM  
**Subject:** RE: Black liquor etc

Further to that, I think a key point is

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

-----Original Message-----

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 11, 2013 1:30 PM  
**To:** Irving, Bill; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
**Cc:** Fawcett, Allen; Sherry, Christopher  
**Subject:** RE: Black liquor etc

The way Sara Ohrel described it the other day, I found useful. She said that

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

-----Original Message-----

**From:** Irving, Bill  
**Sent:** Wednesday, December 11, 2013 1:24 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson  
**Cc:** Kocchi, Suzanne; Fawcett, Allen; Sherry, Christopher  
**Subject:** Black liquor etc

In my general with Paul he was concerned that

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

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**From:** Kocchi, Suzanne  
**To:** Ohrel, Sara; Jenkins, Jennifer; Cole, Jefferson; Sherry, Christopher  
**CC:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/10/2013 1:45:13 PM  
**Subject:** Re: sarah check in on Wed on biomass

Well we aren't really giving it in a briefing way b/c they are mainly OAQPS slides with a few of ours. I expect it will be more of a conversation so a group effort. If you were going to come in just for this don't bother.

However - you can't miss CCD holiday party so do come on Thur! :-)

---

**From:** Ohrel, Sara  
**Sent:** Tuesday, December 10, 2013 1:33:09 PM  
**To:** Jenkins, Jennifer; Kocchi, Suzanne; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Hi all,  
Who is giving the briefing tomorrow? Me? Bill? Just trying to figure out travel plans/prep etc.  
Thanks,  
Sara

---

**From:** Jenkins, Jennifer  
**Sent:** Tuesday, December 10, 2013 9:53:22 AM  
**To:** Kocchi, Suzanne; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Thanks Suzie --

Weather and travel permitting, I am planning to be in on Friday, and can definitely be there for the Janet briefing.

I think your schedule for briefings with Paul and Sarah should be fine. We should have results for both baselines by the week of 1/6. Planning to have pens down by 1/10 to give ICF time to format the final document. Team Biomass, do you agree?

Will stay tuned on Administrator briefing. BTW, I ran into Gina at Dulles on Saturday morning -- I was headed to SFO and she (+ entourage) was en route to China!

Jen

---

**From:** Kocchi, Suzanne  
**Sent:** Tuesday, December 10, 2013 9:05:30 AM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** RE: sarah check in on Wed on biomass

Paul just wants to walk thru the OAQPS slides with Sarah on Wed at 4 pm (assuming that mtg sticks given the closure today) so we don't have to worry about developing a separate slide deck right now.

However, he does want us to get on the calendar for as early as possible in Jan to provide Sarah a more detailed briefing for Sarah on the framework - in particular baselines and results. You have said mid Jan

- what week can we schedule that mtg - late in the week of 1/6 or early the following week 1/13? I am tending to think you did the pre-brief with Paul late week of 1/6 and then the brief with Sarah early the following? Will you have results by then? Even just one case study with both baselines (although you obviously be preferable to have all the results)?

Fri, for the Janet briefing, Bill and I will both be out but will call in. Jen, I think you said you would be in. That would be good because Sarah D and Paul will be in and would like you to come down with them, if you are in. I assume everyone else is out? (since this will be focused mainly on OAQPS again, if you are off, do not worry about calling in, I doubt you will miss anything).

For the Gina briefing, right now, it is in the middle of the OAP Holiday Party. I think Sarah D might be trying to get it moved up but unclear if it will work. We will need to talk to Paul about who attends b/c Sarah D will want to be sure it is a small number (and also Paul and Sarah do not want a bunch of people to miss the holiday party) so stay tuned.

Thanks

---

**From:** Jenkins, Jennifer  
**Sent:** Monday, December 09, 2013 7:57 PM  
**To:** Ohrel, Sara; Kocchi, Suzanne; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Hey guys --

I am on bberry, so have not reviewed this. Wireless is oddly slow everywhere in the meeting rooms, and absent at my hotel, so... Just let me know if you want me to take a look and I'll try to fire it up.

I'd like to call in for the meeting on Weds with Sarah, if I can -- would you just make sure there is a call-in number?

Thanks  
Jen

---

**From:** Ohrel, Sara  
**Sent:** Monday, December 09, 2013 5:33:25 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** RE: sarah check in on Wed on biomass

Hi all,  
Look good, a couple edits in orange.

## Ex. 5 - Deliberative

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**From:** Kocchi, Suzanne  
**Sent:** Monday, December 09, 2013 4:27 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen

**Subject:** sarah check in on Wed on biomass  
**Importance:** High

All – See below, given OAQPS's timeline, Bill and I sent edits back already using the slides Jen sent around on Fri with some additional edits.

We are now on the calendar for a check in with Sarah at 4 pm on Wed. Unclear if we are just going to go thru the OAQPS slide deck or if we are going to give her some of our own slides in an update. Bill and I are checking with Paul.

In the interest of time, I carried over the OAQPS edits to our Sarah slides. I am attaching that here. Please do a quick review and make any additional minor edits by cob Tue (tmrw). This way, once a decision is made about best use of time with Sarah on Wed, we will be ready – either with our own slides or the OAQPS larger slide deck.

Thanks- Suzie

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**From:** Kocchi, Suzanne  
**Sent:** Monday, December 09, 2013 4:04 PM  
**To:** Kornylak, Vera S.; Jenkins, Jennifer; Irving, Bill; Ohrel, Sara; Sherry, Christopher; Jordan, Scott; Doster, Brian; Mangino, Joseph; Montanez, Jessica; Brooks, MichaelS  
**Cc:** Santiago, Juan  
**Subject:** RE: Draft Administrator power point  
**Importance:** High

Vera – Here are our edits. I will note our technical experts did not get to comment on your slides overall although they did comment on the “OAP slides” we have inserted. It is possible we could have a few more edits (and we have a check in with Sarah D on Wed afternoon and she might have comments) but in the interest of time we wanted to get this back to you now.

Our edits are in strikethrough, red text and comment boxes. The main edit we made is: **Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

Please let us know if you have any questions/comments. We will probably check back in Wed to get the latest version (even if it is not final to make sure we are using an up to date version with Sarah).

Also, Jen is on travel to San Francisco (back Thur night) so there might be a time lag if you need something from her specifically. The rest of us are here in town though.

Thanks- Suzie

---

**From:** Kornylak, Vera S.  
**Sent:** Friday, December 06, 2013 12:56 PM  
**To:** Jenkins, Jennifer; Irving, Bill; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher; Jordan, Scott; Doster, Brian; Mangino, Joseph; Montanez, Jessica; Brooks, MichaelS  
**Cc:** Santiago, Juan  
**Subject:** Draft Administrator power point

**Internal; Deliberative**

Hi Everyone: attached please find a draft of the presentation for the forthcoming Janet McCabe and Administrator McCarthy briefings on biogenic CO2.

The presentation is based on an outline that Anna recommended as follows:

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

Joe also noted the following which is addressed here and would be addressed in talking points as well:

## Ex. 5 - Deliberative

\*\*\*

In some cases, I rearranged a few thoughts for flow, but since I anticipate comments from you all, it's likely this will be further reorganized. OAP – please note that I took a few slides from your presentation yesterday but please feel free to provide your own new slides, edits or whatever you think is best for this. Please also note I took out the option that

### Ex. 5 - Deliberative

#### Ex. 5 - Deliberative

Also, I have not updated the accounting framework slide per OAP's briefing yesterday – OAP folks, please feel free to provide suggestions to that.

The Janet McCabe briefing is scheduled for 12/13 so it would be great if I could get any edits back by COB Monday (12/9) so I could get it to Anna and Juan for review on Tuesday.

Thanks everyone & have a great weekend.

Vera

---

**From:** Cole, Jefferson  
**To:** Jenkins, Jennifer; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher  
**CC:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/10/2013 10:02:26 AM  
**Subject:** Re: sarah check in on Wed on biomass

I will be in the office on Friday, so will be able to attend. However, I don't have any of the meeting details (room, etc.). If someone could forward that to me, I'd appreciate it.

Regarding timing on briefings and having data ready to present, I think that this is a fine plan.

Jeff

(Jen, my apologies for the double email. Mistakenly didn't reply to all the first time.)

---

**From:** Jenkins, Jennifer  
**Sent:** Tuesday, December 10, 2013 9:53:22 AM  
**To:** Kocchi, Suzanne; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Thanks Suzie --

Weather and travel permitting, I am planning to be in on Friday, and can definitely be there for the Janet briefing.

I think your schedule for briefings with Paul and Sarah should be fine. We should have results for both baselines by the week of 1/6. Planning to have pens down by 1/10 to give ICF time to format the final document. Team Biomass, do you agree?

Will stay tuned on Administrator briefing. BTW, I ran into Gina at Dulles on Saturday morning -- I was headed to SFO and she (+ entourage) was en route to China!

Jen

---

**From:** Kocchi, Suzanne  
**Sent:** Tuesday, December 10, 2013 9:05:30 AM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** RE: sarah check in on Wed on biomass

Paul just wants to walk thru the OAQPS slides with Sarah on Wed at 4 pm (assuming that mtg sticks given the closure today) so we don't have to worry about developing a separate slide deck right now.

However, he does want us to get on the calendar for as early as possible in Jan to provide Sarah a more detailed briefing for Sarah on the framework - in particular baselines and results. You have said mid Jan - what week can we schedule that mtg - late in the week of 1/6 or early the following week 1/13? I am tending to think you did the pre-brief with Paul late week of 1/6 and then the brief with Sarah early the following? Will you have results by then? Even just one case study with both baselines (although you obviously be preferable to have all the results)?



Fri, for the Janet briefing, Bill and I will both be out but will call in. Jen, I think you said you would be in. That would be good because Sarah D and Paul will be in and would like you to come down with them, if you are in. I assume everyone else is out? (since this will be focused mainly on OAQPS again, if you are off, do not worry about calling in, I doubt you will miss anything).

For the Gina briefing, right now, it is in the middle of the OAP Holiday Party. I think Sarah D might be trying to get it moved up but unclear if it will work. We will need to talk to Paul about who attends b/c Sarah D will want to be sure it is a small number (and also Paul and Sarah do not want a bunch of people to miss the holiday party) so stay tuned.

Thanks

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**From:** Jenkins, Jennifer  
**Sent:** Monday, December 09, 2013 7:57 PM  
**To:** Ohrel, Sara; Kocchi, Suzanne; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Hey guys --

I am on bberry, so have not reviewed this. Wireless is oddly slow everywhere in the meeting rooms, and absent at my hotel, so... Just let me know if you want me to take a look and I'll try to fire it up.

I'd like to call in for the meeting on Weds with Sarah, if I can -- would you just make sure there is a call-in number?

Thanks  
Jen

---

**From:** Ohrel, Sara  
**Sent:** Monday, December 09, 2013 5:33:25 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** RE: sarah check in on Wed on biomass

Hi all,  
Look good. a couple edits in orange.

## Ex. 5 - Deliberative

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**From:** Kocchi, Suzanne  
**Sent:** Monday, December 09, 2013 4:27 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** sarah check in on Wed on biomass  
**Importance:** High

All -- See below, given OAQPS's timeline, Bill and I sent edits back already using the slides Jen sent around on Fri with some additional edits.

We are now on the calendar for a check in with Sarah at 4 pm on Wed. Unclear if we are just going to go thru the OAQPS slide deck or if we are going to give her some of our own slides in an update. Bill and I are checking with Paul.

In the interest of time, I carried over the OAQPS edits to our Sarah slides. I am attaching that here. Please do a quick review and make any additional minor edits by cob Tue (tmrw). This way, once a decision is made about best use of time with Sarah on Wed, we will be ready — either with our own slides or the OAQPS larger slide deck.

Thanks- Suzie

---

**From:** Kocchi, Suzanne

**Sent:** Monday, December 09, 2013 4:04 PM

**To:** Kornylak, Vera S.; Jenkins, Jennifer; Irving, Bill; Ohrel, Sara; Sherry, Christopher; Jordan, Scott; Doster, Brian; Mangino, Joseph; Montanez, Jessica; Brooks, MichaelS

**Cc:** Santiago, Juan

**Subject:** RE: Draft Administrator power point

**Importance:** High

Vera – Here are our edits. I will note our technical experts did not get to comment on your slides overall although they did comment on the “OAP slides” we have inserted. It is possible we could have a few more edits (and we have a check in with Sarah D on Wed afternoon and she might have comments) but in the interest of time we wanted to get this back to you now.

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**Ex. 5 - Deliberative**

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Also, Jen is on travel to San Francisco (back Thur night) so there might be a time lag if you need something from her specifically. The rest of us are here in town though.

Thanks- Suzie

---

**From:** Kornylak, Vera S.

**Sent:** Friday, December 06, 2013 12:56 PM

**To:** Jenkins, Jennifer; Irving, Bill; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher; Jordan, Scott; Doster, Brian; Mangino, Joseph; Montanez, Jessica; Brooks, MichaelS

**Cc:** Santiago, Juan

**Subject:** Draft Administrator power point

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The Janet McCabe briefing is scheduled for 12/13 so it would be great if I could get any edits back by COB Monday (12/9) so I could get it to Anna and Juan for review on Tuesday.

Thanks everyone & have a great weekend.

Vera

---

**From:** Cole, Jefferson  
**To:** Ohrel, Sara; Kocchi, Suzanne; Jenkins, Jennifer; Sherry, Christopher  
**CC:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/9/2013 5:06:21 PM  
**Subject:** RE: sarah check in on Wed on biomass

I looked through both. I do not have any edits/comments.

Jeff

---

Jefferson Cole  
Climate Economics Branch  
Climate Change Division  
U.S. Environmental Protection Agency  
cole.jefferson@epa.gov  
202.343.9671

---

**From:** Ohrel, Sara  
**Sent:** Monday, December 09, 2013 4:47 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** Re: sarah check in on Wed on biomass

Hi Suzie,  
I will take a look now.

---

**From:** Kocchi, Suzanne  
**Sent:** Monday, December 09, 2013 4:26:45 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** sarah check in on Wed on biomass

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**Sent:** Friday, December 06, 2013 12:56 PM

**To:** Jenkins, Jennifer; Irving, Bill; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher; Jordan, Scott; Doster, Brian; Mangino, Joseph; Montanez, Jessica; Brooks, MichaelS

**Cc:** Santiago, Juan

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The Janet McCabe briefing is scheduled for 12/13 so it would be great if I could get any edits back by COB Monday (12/9) so I could get it to Anna and Juan for review on Tuesday.

Thanks everyone & have a great weekend.

Vera

---

**From:** Kocchi, Suzanne  
**To:** Irving, Bill; Fawcett, Allen; Jenkins, Jennifer; Cole, Jefferson; Ohrel, Sara; Sherry, Christopher  
**Sent:** 12/5/2013 8:42:55 PM  
**Subject:** Fw: Update on Treatment of Biogenic CO2  
**Attachments:** ATT00001.htm; Update on Biomass for Sarah\_sk.pptx

Outlook wasn't working so excuse the fwd from home address

---

**From:** Suzanne Kocch **Ex. 6 - Personal Privacy**  
**Sent:** Thursday, December 05, 2013 8:40:29 PM  
**To:** Kocchi, Suzanne  
**Subject:** Re: Update on Treatment of Biogenic CO2

---

**From:** Kocchi, Suzanne  
**To:** Jenkins, Jennifer; Irving, Bill; Fawcett, Allen  
**CC:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Sent:** 12/5/2013 6:28:58 PM  
**Subject:** RE: Update on Treatment of Biogenic CO2  
**Attachments:** OAP slides for Janet 12-13 briefing\_sk.pptx

Here are my comments on the slides for OAQPS. They would also all carry over to the Sarah briefing but I will have more comments on that file so look for a separate email on that. Bill is going to comment on top of me. I assume Allen will as well.

---

**From:** Jenkins, Jennifer  
**Sent:** Thursday, December 05, 2013 4:14 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: Update on Treatment of Biogenic CO2

Bill, Suzie, Allen

Attached please find Team Biomass' drafts of the two sets of slides we're working on for next week: a shorter set that we can contribute to the Janet briefing on Friday with OAQPS, and a longer set for Sarah that we'll use as pre-brief for the Janet one. Obviously there is some overlap, which we probably want so Sarah isn't seeing our slides for the first time at Janet's briefing.

Happy to edit... let us know what you think. I guess we also need to know when the Sarah pre-brief is happening.

Different question: Is anyone going down to WJC tomorrow for the meeting at 11:30 with NRDC and friends?

Thanks  
Jen

---

**From:** Irving, Bill  
**Sent:** Thursday, December 05, 2013 8:43 AM  
**To:** Jenkins, Jennifer; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Cc:** Fawcett, Allen  
**Subject:** Re: Update on Treatment of Biogenic CO2

Yes, longer than the slides we will contribute to the Janet briefing, but only by 2-3 slides.

---

**From:** Jenkins, Jennifer  
**Sent:** Wednesday, December 04, 2013 5:42:08 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Cc:** Fawcett, Allen  
**Subject:** RE: Update on Treatment of Biogenic CO2

OK, thanks Bill.

I just sent a draft of the 4 Janet slides Ex. 5 - Deliberative to Team Biomass for their review. We should be able to send you that set by mid-day tomorrow.

Sounds like we will need a longer set for the Sarah pre-brief. That should borrow from the material we're going to present tomorrow to OGC and OAQPS, so I'll clip that out and send to Team Biomass now for their review also. We should be able to have the Sarah briefing to you mid-day tomorrow as well...



We can ask OGC and OAQPS tomorrow while we're on the phone about their planned direction for the Janet briefing, but I'm guessing they won't have much yet. We'll probably need to take that on early next week, and insert into the Sarah briefing as appropriate. Maybe I'll add a placeholder slide for that just so we have it on the radar.

Jen

---

**From:** Irving, Bill  
**Sent:** Wednesday, December 04, 2013 5:33 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Cc:** Fawcett, Allen  
**Subject:** RE: Update on Treatment of Biogenic CO2

All – an update on how to prepare for Sarah. We will need to do a pre-brief, and I can send a note to Tina tomorrow. Paul asked us to combine general background (see below) with the 3 slides we plan to send down to OAQPS for Janet.

## Ex. 5 - Deliberative

Also, he understands that we might not have OGC and OAQPS slides available by the time we brief Sarah, so we will need to connect with Juan and Vera to get a sense of where they are going with the briefing so we can let Sarah know.

---

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 04, 2013 1:00 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** FW: Update on Treatment of Biogenic CO2

I am guessing most of you got this. I am on use or lose leave but can probably call in if needed. I know Paul is here but he will probably want at least one technical person to go with him. Bill can check with Paul today about how he wants to handle this.

Now we know the deadline to have final slides – Thur 5 pm. That means a decent draft needs to go to Paul by early next week and likely to Sarah by Tue cob.

Stay tuned if we need to do our own pre-brief with Sarah earlier in the week. Bill is going to check with Paul on that as well.

---

**From:** Jenkins, Jennifer  
**To:** Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**CC:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Sent:** 12/5/2013 4:13:48 PM  
**Subject:** RE: Update on Treatment of Biogenic CO2  
**Attachments:** AF2 update for Janet 12 13 2013 Team Biomass.pptx; pre-brief on AF2 for Sarah 12 XX 2013 Team Biomass.pptx

Bill, Suzie, Allen

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**Sent:** Wednesday, December 04, 2013 5:33 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
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**Subject:** RE: Update on Treatment of Biogenic CO2

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Stay tuned if we need to do our own pre-brief with Sarah earlier in the week. Bill is going to check with Paul on that as well.

**From:** Irving, Bill  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**CC:** Fawcett, Allen  
**Sent:** 12/4/2013 2:11:44 PM  
**Subject:** RE: Upcoming briefing for Gina on biomass

All - based on Joe's note, we need to be prepared to discuss

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

-----Original Message-----

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 04, 2013 12:49 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**Cc:** Irving, Bill; Fawcett, Allen  
**Subject:** FW: Upcoming briefing for Gina on biomass

FYI - a little more from Joe below

-----Original Message-----

**From:** Gunning, Paul  
**Sent:** Wednesday, December 04, 2013 12:47 PM  
**To:** Kocchi, Suzanne; Irving, Bill  
**Subject:** Fw: Upcoming briefing for Gina on biomass

---

**From:** Goffman, Joseph  
**Sent:** Wednesday, December 04, 2013 12:41:39 PM  
**To:** Wood, Anna  
**Cc:** Gunning, Paul  
**Subject:** Re: Upcoming briefing for Gina on biomass

Looks good. Let's also address

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

Thanks.

---

**From:** Wood, Anna  
**Sent:** Wednesday, December 04, 2013 10:24:27 AM  
**To:** Goffman, Joseph  
**Cc:** Gunning, Paul  
**Subject:** Upcoming briefing for Gina on biomass

Hi Joe, per our discussion yesterday, the feedback for preparing for Gina's briefing is as follows. Also, you recommended that we prebrief Janet next week before going to Gina. Pls advise if you have any additions or corrections to what is noted below for the briefing. Thx

The briefing should address and provide an update on where we are on addressing biomass and would touch on

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

---

**From:** Kocchi, Suzanne  
**To:** Jenkins, Jennifer; Ohrel, Sara; Cole, Jefferson; Sherry, Christopher  
**CC:** Irving, Bill; Fawcett, Allen  
**Sent:** 12/4/2013 11:16:51 AM  
**Subject:** FW: Upcoming briefing for Gina on biomass

See below - the meetings with Janet and Gina on biomass are moving forward. I believe Bill's note from the other day covers the slides we will need to contribute but please make any adjustments as needed to reflect the commentary and description below. Please plan to circulate your draft as soon as available tomorrow. Thanks!

-----Original Message-----

**From:** Gunning, Paul  
**Sent:** Wednesday, December 04, 2013 11:11 AM  
**To:** Kocchi, Suzanne; Irving, Bill  
**Subject:** Re: Upcoming briefing for Gina on biomass

Good point. We will also have to bring in

**Ex. 5 - Deliberative**

**Ex. 5 - Deliberative**

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**From:** Kocchi, Suzanne  
**Sent:** Wednesday, December 04, 2013 11:06:59 AM  
**To:** Gunning, Paul; Irving, Bill  
**Subject:** RE: Upcoming briefing for Gina on biomass

Makes sense and I think we have existing materials for everything. One key point, it is subtle

# Ex. 5 - Deliberative

-----Original Message-----

**From:** Gunning, Paul  
**Sent:** Wednesday, December 04, 2013 10:59 AM  
**To:** Kocchi, Suzanne; Irving, Bill  
**Subject:** Fw: Upcoming briefing for Gina on biomass

Anna and I talked and are trying to get clarity from Joe (see below). Anna will ask Juan to put in the meeting request for Janet and then work with us to pull together the briefing (obviously drawing from existing materials).

---

**From:** Wood, Anna  
**Sent:** Wednesday, December 04, 2013 10:24:27 AM  
**To:** Goffman, Joseph  
**Cc:** Gunning, Paul  
**Subject:** Upcoming briefing for Gina on biomass

Hi Joe, per our discussion yesterday, the feedback for preparing for Gina's briefing is as follows. Also, you recommended that we prebrief Janet next week before going to Gina. Pls advise if you have any additions or corrections to what is noted below for the briefing. Thx

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**Ex. 5 - Deliberative**

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**From:** Jenkins, Jennifer  
**To:** Sherry, Christopher; Ohrel, Sara; Cole, Jefferson; Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**Sent:** 11/25/2013 12:27:09 PM  
**Subject:** FW: Meeting on Biogenic CO2 Mon 11/15 1pm  
**Attachments:** image001.jpg; Nov 23 2013 Summary of changes to report on manufacturing residuals.docx

Passing this along for the 1 pm meeting...

Obviously came in kind of late!

---

**From:** Noe, Paul [mailto:Paul\_Noe@afandpa.org]  
**Sent:** Sunday, November 24, 2013 6:17 PM  
**To:** Jenkins, Jennifer  
**Subject:** RE: Meeting on Biogenic CO2 Mon 11/15 1pm

Jen:

Here is an additional document on the NCASI study on forest products manufacturing residuals. In it, NCASI explains the change in methodology from the July draft report to the October final version. It will be provided at our meeting Monday afternoon, but I wanted to send it now in case you would like to take a look at it before our meeting.

Best regards,

Paul

---

**From:** Noe, Paul  
**Sent:** Thursday, November 21, 2013 2:12 PM  
**To:** 'Jenkins.Jennifer@epamail.epa.gov'  
**Subject:** Meeting on Biogenic CO2 Mon 11/15 1pm

Jen:

I wanted to follow up on my original message regarding our meeting on biogenic CO2 that was rescheduled for this Monday at 1pm. For your review prior to the meeting, I am attaching a copy of the Executive Summary of the final NCASI study on forest products manufacturing residuals. The study used robust dynamic radiative forcing calculations. While the full report can be accessed at the link below in my original message, the Executive Summary lays out the key results. (See for example Table ES.5 on p. vi). I also am including a simple summary prepared by AF&PA.

Please share this with your colleagues who will be at the meeting.

Thank you.

Paul Noe  
Vice President for Public Policy  
AMERICAN FOREST & PAPER ASSOCIATION  
Effective November 18, our new address will be:  
1101 K Street, NW, Suite 700, Washington, D.C. 20005  
[Paul\\_Noe@afandpa.org](mailto:Paul_Noe@afandpa.org)  
202-463-2777 (phone)  
202-463-2772 (fax)



---

**From:** Noe, Paul  
**Sent:** Thursday, October 10, 2013 12:38 PM  
**To:** Joseph Goffman ([Goffman.Joseph@epamail.epa.gov](mailto:Goffman.Joseph@epamail.epa.gov))  
**Cc:** Lancey, Stan; 'dunham.sarah@epa.gov'; Paul Gunnign ([gunning.paul@epa.gov](mailto:gunning.paul@epa.gov)); Jennifer C. Jenkins Ph. D. ([jenkins.jennifer@epa.gov](mailto:jenkins.jennifer@epa.gov)); ohrel.sara@epa.gov; William N. Irving ([irving.bill@epa.gov](mailto:irving.bill@epa.gov)); [santiago.juan@epa.gov](mailto:santiago.juan@epa.gov); 'wood.anna@epa.gov'; Browne, Cynthia; [Kocchi.Suzanne@epamail.epa.gov](mailto:Kocchi.Suzanne@epamail.epa.gov)  
**Subject:** NCASI Study, Biomass Energy from Forest Products Manufacturing Residuals

Dear Joe:

I wanted to let you know that earlier this week, NCASI posted the final version of their report, "Greenhouse Gas and Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities." The study is based on a robust dynamic analysis.

As explained in the attached summary prepared by AF&PA, the study shows large greenhouse gas reduction benefits from using manufacturing residuals (such as black liquor, bark, sawdust, paper recycling residuals, and waste water treatment residuals) for energy in the forest products industry – avoiding the emission of approximately 218 million metric tons of CO<sub>2</sub>e annually. (This is equivalent to removing over 40 million cars from the road.) This includes both fossil fuel displacement benefits as well as avoided biogenic greenhouse gas emissions that would occur from disposing of the residuals, such as through landfilling or incineration. Even if the benefits of fossil fuel displacement are set aside under a narrower "alternative fate" perspective, the benefits of using manufacturing residuals for energy rather than disposing of them are still large – by our estimate, about 53 million metric tons of CO<sub>2</sub>e avoided annually, the equivalent of removing about 10 million cars from the road.

A link to the study is below. Please let me know if you have any questions.

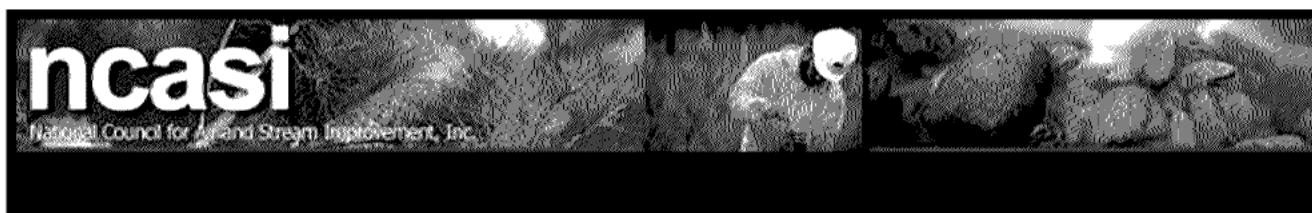
Once the current funding issue is resolved, we would like to make this a part of the agenda for the meeting with you and your colleagues that has to be rescheduled.

Thank you for your consideration.

Best regards,

Paul

If you are unable to view this email, [click here](#) for a web version.  
To view a text version of this, [click here](#).



## **Greenhouse Gas and Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities (NCASI Technical Bulletin No. 1016)**

NCASI recently posted a new report, Technical Bulletin No. 1016, on its website at [www.ncasi.org](http://www.ncasi.org). Member company employees, as well as government and academic personnel, may request a printed complimentary copy of this report by replying to this message or calling (352) 331-1745. The PDF file is freely available to the public for download.

NCASI Technical Bulletin No. 1016: Greenhouse Gas and Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities

[Bulletin technique no. 1016 : Avantages liés à la réduction des émissions de gaz à effet de serre et de la consommation d'énergie fossile de l'utilisation de résidus manufacturiers de biomasse pour la production d'énergie par les usines de produits forestiers]

NCASI continues its work to address the United States Environmental Protection Agency's expressed interest in the life cycle greenhouse gas benefits associated with using biomass. The regulatory decisions EPA makes on this topic have the potential to greatly affect the costs of doing business and the perception of forest industry's products in the marketplace. The forest products industry, therefore, has a great deal at stake in ensuring that the agency's deliberations on this topic are well informed.

In an earlier report, NCASI examined the life cycle greenhouse gas and non-renewable energy benefits of using black liquor in the kraft recovery system. In the study described herein, NCASI extends this work to other types of biomass-based manufacturing residuals used for energy generation within the industry. While there are numerous studies examining the life cycle impacts of biomass energy, none has applied the comprehensive approach used here by NCASI to characterize the impacts of the industry's use of energy produced from biomass residuals.

In this study, NCASI has compared systems involving the use of biomass-based manufacturing residuals for energy to comparable systems relying on fossil fuels. The results indicate that the industry's use of these manufacturing residuals for energy avoids the release of approximately 110 million metric tons of CO<sub>2</sub>E per year.

Combining the results of this study with the results of the previous NCASI study on black liquor reveals that each year's use of biomass-based manufacturing residuals (including black liquor) in the US forest products industry avoids the emission of approximately 218 million metric tons of CO<sub>2</sub>E, an amount more than three times the annual direct emissions of CO<sub>2</sub> from fossil fuel combustion in the industry.

This study is one of a series of ongoing NCASI projects having the objective of helping the forest products industry and its stakeholders better understand the greenhouse gas and energy impacts of using forest biomass as a raw material and fuel.

[List of recent NCASI Technical Bulletins >>](#)

This message is from the National Council for Air and Stream Improvement, an independent, non-profit research institute that focuses on environmental topics of interest to the forest products industry.  
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P.O. Box 13318, Research Triangle Park, NC 27709 U.S.A.  
(919) 941-6400



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(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

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NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT, INC.  
P.O. Box 13318, Research Triangle Park, NC 27709-3318  
Phone (919) 941-6400 Fax (919) 941-6401

Reid A. Miner  
Vice President -  
Sustainable Manufacturing  
Phone (919) 941-6407  
Fax (919) 941-6401  
e-mail RMiner@ncasi.org

## **NCASI Study on the GHG Benefits of using Biomass Manufacturing Residuals for Energy: Revisions to Improve the Understanding of the Timing of Impacts**

Reid Miner and Caroline Gaudreault, NCASI

November 23, 2013

Following the July 25, 2013 meeting with EPA, NCASI gave additional thought to the method it had used to estimate the timing of GHG emissions and GHG emissions impacts. In the results presented to EPA during the July meeting, the impacts of emissions over time were estimated by multiplying the emissions in a given year by the associated 100-year global warming potential (GWP) and then calculating the cumulative emissions impact over time, in units of CO<sub>2</sub> equivalents. NCASI realized shortly after the meeting, however, that this approach does not correctly characterize radiative forcing impacts in the atmosphere over time. This is because a 100-year global warming potential is a single value reflecting the cumulative radiative forcing over 100 years associated with a single pulse emission of a GHG.<sup>1</sup> All of the 100-year cumulative forcing impact is attached to emissions at the time the emissions occur. To understand timing, however, one needs to characterize the year-to-year radiative forcing associated with the GHGs emissions remaining in the atmosphere. NCASI, therefore, has recalculated the results of its study using a more appropriate calculation method that accounts for radiative forcing over time. Hereafter we refer to this as the “dynamic approach.” Examples in the literature of using the dynamic approach to examine the GHG impacts of energy systems include the articles by Levasseur et al.<sup>2</sup> and by Alvarez et al.<sup>3</sup>

The dynamic approach starts with the same GHG emissions estimates as used in the earlier results shared with EPA. Each year’s emissions, however, are tracked in the atmosphere over time as they decompose or are removed from the atmosphere. The radiative forcing associated with the GHGs remaining the atmosphere in each year is calculated and the cumulative radiative forcing is tracked over time. The point in time where the two systems (one using residuals for energy and the other disposing of the residues) have equal cumulative radiative forcing is the “break even” time. For the rest of the 100-year period, the radiative forcing associated with using residuals for energy is lower than the forcing associated with disposing of the residuals.

---

<sup>1</sup> Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Chapter 2 [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press

<sup>2</sup> Levasseur, A. et al. 2010. Considering time in LCA: Dynamic LCA and its application to global warming impact assessments. *Environ. Sci. Technol.* 44 (8), pp 3169–3174

<sup>3</sup> Alvarez, R.A. et al. 2012. Greater focus needed on methane leakage from natural gas infrastructure. *PNAS* 109(17), pp 6435-6440

One other difference from the original results shown to EPA on July 25<sup>th</sup> involves the modeling of methane in the atmosphere. IPCC's 100-year global warming potentials for methane do not consider the radiative forcing of the CO<sub>2</sub> formed as methane decomposes in the atmosphere. The reason has to do with how carbon is tracked in international GHG inventories under IPCC guidelines.<sup>1</sup> For a study focused on the timing of impacts of two systems, however, this CO<sub>2</sub> needs to be considered.

To do the radiative forcing calculations, NCASI used a tool developed by researchers at the Interuniversity Research Centre for the Life Cycle of Products, Processes and Services (CIRAIG) at École Polytechnique de Montréal.<sup>4</sup> This is the same group of CIRAIG researchers who published the Levasseur et al. paper mentioned above. The tool is based on the same equations used by IPCC to calculate global warming potentials, except that the tool also accounts for the radiative forcing of CO<sub>2</sub> resulting from the decomposition of methane in the atmosphere.

To ensure that the CIRAIG tool was producing results expected using IPCC's equations (i.e. IPCC equations for decay of GHGs in the atmosphere and the radiative forcing associated with GHGs), NCASI used the dynamic tool to develop global warming potentials and compared them to those published by IPCC. The results are shown in Table 1. The tool produced results for nitrous oxide that were exactly the same as those published by IPCC. The tool produced global warming potentials for methane that were slightly higher than those published by IPCC, reflecting the fact that the tool includes the radiative forcing associated with CO<sub>2</sub> resulting from methane decomposition in the atmosphere while IPCC GWPs do not.

**Table 1.** Comparison of IPCC GWPs<sup>1</sup> to Results Obtained Using the CIRAIG Dynamic Carbon Footprint Calculator<sup>4</sup>

GHG	20-Year		100-year		500-year	
	IPCC GWPs	Dynamic Calculator	IPCC GWPs	Dynamic Calculator	IPCC GWPs	Dynamic Calculator
Methane	72	72.9	25	27.5	7.6	10.3
Nitrous Oxide	289	289	298	298	153	153

Using the dynamic approach has very little impact on the long term (100-year) benefits estimated for using manufacturing residuals for energy compared to disposing of these residuals. This is because in both systems (i.e. using residuals for energy vs. disposing of residues) most of the emissions occur early in the accounting period so over a 100-year period similar results for cumulative radiative forcing are obtained with the two methods. The break even times are significantly shorter using the dynamic approach, however, because scenario's involving the landfill disposal of residuals have methane emissions, and radiative forcing, concentrated in the early years of the simulation, something not revealed by using 100-year GWPs.

<sup>4</sup> Levasseur, A. 2013. DynCO2 Dynamic Carbon Footprinter. Montreal, QC: CIRAIG. <http://www.ciraig.org/en/dynco2.php> (accessed August 2013).

In the tables below, the earlier results for break even times are compared to those calculated using the more accurate dynamic approach. The first table shows the results when you include the benefits of displacing fossil fuels (i.e. a full life cycle comparison) while the second does not (i.e. an analysis considering only biogenic emissions from the units receiving residuals).

**Table 2.** Time for Biomass Energy Systems to Have Lower Cumulative Radiative Forcing from GHG Emissions (Including Biogenic CO<sub>2</sub>) Than the Corresponding Non-Use Systems, Considering Fossil Fuel Substitution

<b>Residual Type</b>	<b>Correct Break Even Time (years)</b>	<b>Previous Break Even Time (years)</b>
Woody mill residuals	0.6	3.6
WWTP residuals	0	1.9
Paper recycling residuals	0	0
Black liquor	0	0
Weighted average of manufacturing residuals	0.2	1.2

**Table 3.** Results of Analysis of Biogenic GHGs, Ignoring Fossil Fuel Substitution

<b>Residual Type</b>	<b>Correct Break Even Time (years)</b>	<b>Previous Break Even Time (years)</b>
Woody mill residuals	7.4	18.0
WWTP residuals	5.9	13.8
Fiber fraction of paper recycling residuals*	7.7	18.2
Black liquor	0	0
Weighted average of manufacturing residuals	2.4	5.9

*\* In addition to biomass, paper recycling residuals contain plastics which are produced from fossil fuels. For the purpose of the biomass carbon fate analysis, only the biomass fraction was considered.*

---

**From:** Jenkins, Jennifer  
**To:** Ohrel, Sara; Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**CC:** Sherry, Christopher; Cole, Jefferson  
**Sent:** 11/21/2013 11:37:24 AM  
**Subject:** RE: briefing for OTAQ tomorrow  
**Attachments:** briefing on AF2 for OTAQ 11 21 2013 v4.pptx

Thanks everyone. Good catch Sara!

Here is the final draft. I will send to OTAQ now. Stay tuned for slides for the AF1 briefing for SPPD at 3 today.

---

**From:** Ohrel, Sara  
**Sent:** Thursday, November 21, 2013 10:15 AM  
**To:** Jenkins, Jennifer; Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

Only one edit: old error we found at the last briefing on appendix slide 22. Suggested edit in green.

---

**From:** Jenkins, Jennifer  
**Sent:** Thursday, November 21, 2013 9:47 AM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

Here is next draft...

---

**From:** Kocchi, Suzanne  
**Sent:** Thursday, November 21, 2013 9:40 AM  
**To:** Jenkins, Jennifer; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

Ok then please delete the column.

---

**From:** Jenkins, Jennifer  
**Sent:** Thursday, November 21, 2013 9:39 AM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

True, Ex. 5 - Deliberative Yes, we can answer verbally.

---

**From:** Kocchi, Suzanne  
**Sent:** Thursday, November 21, 2013 9:39 AM  
**To:** Jenkins, Jennifer; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

## Ex. 5 - Deliberative

**From:** Jenkins, Jennifer  
**Sent:** Thursday, November 21, 2013 9:37 AM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

OK thanks. Along the same lines, because this group is technically savvy and very interested, on second thought I

## Ex. 5 - Deliberative

**From:** Kocchi, Suzanne  
**Sent:** Thursday, November 21, 2013 9:31 AM  
**To:** Jenkins, Jennifer; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

## Ex. 5 - Deliberative

**From:** Jenkins, Jennifer  
**Sent:** Thursday, November 21, 2013 9:29 AM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

Go tit. Thanks Suzie – I'll delete those slides.

## Ex. 5 - Deliberative

## Ex. 5 - Deliberative

We'll have folks, like Vince, who are very familiar with the Framework and the context already but we'll also have folks, like Sharyn and some folks Vince plans to dial in from Ann Arbor, who are not as familiar. So we can run through the background slides very quickly but it will probably be helpful to have available.

On the technical details, we had been thinking that this technical audience would appreciate walking through the

## Ex. 5 - Deliberative

Thanks  
Jen

**From:** Kocchi, Suzanne  
**Sent:** Thursday, November 21, 2013 9:12 AM  
**To:** Jenkins, Jennifer; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

Attached are my comments. I moved several slides to the end and recommend deleting but didn't want to delete them w/o you seeing them so put them behind a title slide that said delete. I also played with the flow some because I really struggled with the order. The background you are not going to really need or even dwell on but I understand why you have it. I also don't think you should spend a lot time explaining the original report, it is changed now so don't dwell.



# Ex. 5 - Deliberative

I am not planning to attend your briefing. I assume you don't need me. Remember keep it very informal and just an update/looping them in. Sarah hasn't been updated neither Joe/Janet so we don't want to give the impression this is a done deal.

Thanks!

---

**From:** Jenkins, Jennifer  
**Sent:** Thursday, November 21, 2013 9:04 AM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** RE: briefing for OTAQ tomorrow

OK, thanks Suzie

---

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, November 20, 2013 7:49 PM  
**To:** Jenkins, Jennifer; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** Re: briefing for OTAQ tomorrow

I am going to have comments and will try to do them as soon as possible in the am.

---

**From:** Jenkins, Jennifer  
**Sent:** Wednesday, November 20, 2013 6:17:16 PM  
**To:** Kocchi, Suzanne; Fawcett, Allen; Irving, Bill  
**Cc:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**Subject:** briefing for OTAQ tomorrow

Suzie, Bill, and Allen –

Tomorrow afternoon at 2 at 1310 L (room 756), we are planning a briefing for OTAQ on the revised Framework. I am attaching the current draft of the briefing materials. Team Biomass reviewed an interim draft of this yesterday, but Jeff, Chris, and Sara have not seen this final draft yet. (So the errors are all mine.)

Please let me know if you have comments or edits – we can update tomorrow morning before we finalize and print.

Also, we're doing a briefing right after that (at 3) by phone with Amit and SPPD. That one will be the remedial briefing including background on the first Framework draft... to bring SPPD up to speed so that they will be ready for the briefing on the revised framework that we are planning on Dec 5 with AQPD, SPPD, and OGC.

We'll use materials we already have for the one with SPPD tomorrow. I'll send those slides around tomorrow morning by 10.

Jen

Climate Change Division, Office of Atmospheric Programs  
US Environmental Protection Agency  
202-343-9361  
[jenkins.jennifer@epa.gov](mailto:jenkins.jennifer@epa.gov)

---

**From:** Irving, Bill  
**To:** Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Cole, Jefferson  
**CC:** Fawcett, Allen; Kocchi, Suzanne  
**Sent:** 10/24/2013 3:57:18 PM  
**Subject:** RE: Remaining AF2 appendices comments  
**Attachments:** AF2 (BI)

Bloody autofill (Cole/Collison)

Here it is again.

---

**From:** Irving, Bill  
**Sent:** Thursday, October 24, 2013 3:52 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Collison, Blaine; Sherry, Christopher  
**Cc:** Fawcett, Allen; Kocchi, Suzanne  
**Subject:** Remaining AF2 appendices comments

I've commented on all sections with text except for B and K (waste). I didn't provide comments on the FABA results but did read it through thoroughly – my main goal was to try to understand it, and I partly succeeded. I will make another run at it.

Thanks again for all your effort – it's very clear a how much work has gone into the technical details behind the framework.

Bill

---

**From:** Jenkins, Jennifer  
**To:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson; Irving, Bill; Kocchi, Suzanne; Fawcett, Allen  
**Sent:** 9/24/2013 12:48:39 PM  
**Subject:** Team Biomass strategy with Bill/ Suzie/ Allen  
**Attachments:** SAB%20Response%20Document%20Draft%20v1[1].docx; Table with Summary of BAF Results Under Reference Point Baseline.docx

All:

Here is a proposed agenda for our meeting at 4 pm – additions/ deletions welcome:

# Ex. 5 - Deliberative

Thanks!  
Jen

Jennifer C. Jenkins, Ph.D.  
Climate Policy Branch  
Climate Change Division, Office of Atmospheric Programs  
US Environmental Protection Agency  
202-343-9361  
jenkins.jennifer@epa.gov

**From:** Kocchi, Suzanne  
**To:** Jenkins, Jennifer; Irving, Bill; Ohrel, Sara  
**CC:** Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
**Sent:** 9/11/2013 3:26:16 PM  
**Subject:** RE: next steps on biomass

Both. With Bill's recommendations (which I agree with),

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**Ex. 5 - Deliberative**

This table, which you have done before in various forms, especially early on, is a way to take

## **Ex. 5 - Deliberative**

-----Original Message-----

**From:** Jenkins, Jennifer  
**Sent:** Wednesday, September 11, 2013 3:22 PM  
**To:** Irving, Bill; Kocchi, Suzanne; Ohrel, Sara  
**Cc:** Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
**Subject:** RE: next steps on biomass

Thanks Bill --

Jeff is going to send around a new shell to make sure we understand what you are looking for with this Table. We should have that for you by tomorrow.

One question though, as we fill it in:

**Ex. 5 - Deliberative**

## **Ex. 5 - Deliberative**

thanks  
Jen

-----Original Message-----

**From:** Irving, Bill  
**Sent:** Wednesday, September 11, 2013 2:24 PM  
**To:** Kocchi, Suzanne; Jenkins, Jennifer; Ohrel, Sara  
**Cc:** Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
**Subject:** RE: next steps on biomass

All - some thoughts on the table.

# **Ex. 5 - Deliberative**

Bill

-----Original Message-----

**From:** Kocchi, Suzanne  
**Sent:** Wednesday, September 11, 2013 8:18 AM

To: Jenkins, Jennifer; Ohrel, Sara  
Cc: Irving, Bill; Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
Subject: RE: next steps on biomass

Sure. Understand you are slammed but this is a priority because of the Janet mtg next Fri. It is possible you could send it first thing on Mon but better if we can send it to OAQPS and OGC on Fri. I imagine

**Ex. 5 - Deliberative**

wouldn't take too much time.

You should also check in with Bill for his thoughts (because he might have additional/different ideas) about how to build the table.

-----Original Message-----

From: Jenkins, Jennifer  
Sent: Tuesday, September 10, 2013 5:47 PM  
To: Kocchi, Suzanne; Ohrel, Sara  
Cc: Irving, Bill; Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
Subject: RE: next steps on biomass

Thanks Suzie --

This does seem like a good idea. Team Biomass has a meeting planned for tomorrow afternoon; we will discuss and get back to you after with a plan. Does that work? We are slammed this week with the final drafts of main body, Appendices, and SAB report text (all for next Monday) but will see what we can do for Friday...

Jen

---

From: Kocchi, Suzanne  
Sent: Tuesday, September 10, 2013 5:11 PM  
To: Jenkins, Jennifer; Ohrel, Sara  
Cc: Irving, Bill; Sherry, Christopher; Cole, Jefferson; Fawcett, Allen  
Subject: next steps on biomass

After the Janet meeting today, OGC, OAP and Anna (she was there in person) continued the discussion for a bit to brainstorm about a way to move this forward for Janet and Joe. As part of that, Paul suggested and volunteered us to take a first crack at a simple table that lists

**Ex. 5 - Deliberative**

it. He wants us to do a first version and then send to OAQPS and OGC to refine. The next briefing for Janet is 9/20 so this will have to be part of that.

Bill may have some idea to supplement this or change this but we need to get started and get something out to the group NLT Fri.

At a minimum it would be something like the following, Can someone please take the pen, circulate it among the group with the goal of sending around to OAQPS and OGC NLT cob Fri?

Thanks.

**Ex. 5 - Deliberative**

# Ex. 5 - Deliberative

?

**From:** Jenkins, Jennifer  
**To:** Irving, Bill  
**CC:** Ohrel, Sara; Sherry, Christopher; Cole, Jefferson; Kocchi, Suzanne; Fawcett, Allen  
**Sent:** 9/8/2013 7:00:48 PM  
**Subject:** RE: Articles describing the economic forces affecting land use change in the U.S.

Team Biomass:

Based on a quick look at the papers attached here, I think Reid's summary assessment of them

# Ex. 5 - Deliberative

Jen

---

From: Goffman, Joseph  
Sent: Sunday, September 08, 2013 12:30 PM  
To: Dunham, Sarah; DeMocker, Jim; Irving, Bill



Cc: Jenkins, Jennifer; Ohrel, Sara; Wood, Anna; Doster, Brian  
Subject: Fw: Articles describing the economic forces affecting land use change in the U.S.

Fyi - making a land use policy-based argument for differential treatment of biogenic CO2 emissions under PSD and Title V. Thanks.

---

From: Miner, Reid <RMiner@NCASI.org>  
Sent: Sunday, September 08, 2013 12:16:57 PM  
To: Goffman, Joseph; Jenkins, Jennifer; Ohrel, Sara  
Cc: Elaine Oneil; 'Jim Bowyer'; 'Buford, Marilyn -FS'; sedjo@rff.org; robertcabt@gmail.com; 'Bob Abt'; 'Skog, Kenneth E -FS'; 'Robert W. Malmshemer'; 'O'Laughlin, Jay'; barnwellj@safnet.org; Lucier, Alan  
Subject: Articles describing the economic forces affecting land use change in the U.S.

Dear Joe, Sara and Jennifer

During the meeting on July 30 where we discussed a manuscript prepared by a team of members of the Society of American Foresters, we were asked to provide copies of papers describing the economic forces contributing to gains and losses in forested area in the U.S.

The attached two papers (Hardie et al. and Lubowski et al.) provide the basis for much of the modeling that has been done in this area. Both use empirical data to estimate factors (e.g. elasticities) used in models of land use and land use change. The results have been used a range of studies exploring the impacts of markets on forested area and carbon (e.g. . Daigneault, A., Sohngen, B. & Sedjo, R. Economic approach to assess the forest carbon implications of biomass energy. Environmental Science and Technology 46, 5664-5671 (2012); Abt, R. C., Galik, C. S. & Henderson, J. D. The Near-term Market and Greenhouse Gas Implications of Forest Biomass Utilization in the Southeastern United States. CCPP 10-01 ,Nicholas School of the Environment, Duke University, 2010; various studies involving the use of FASOM).

The results of such studies provide important evidence of investment responses to demand for forest biomass that offset reductions in forest carbon stocks attributable to increased removals, especially in the Southern U.S.. These studies also confirm that it is not the demand for forest biomass that is threatening forest area in the U.S., but instead, that demand for forest biomass helps prevent loss of forested area.

We hope you find this information helpful.

Best Regards

Reid

Reid Miner, Member; Society of American Foresters

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**From:** Fawcett, Allen  
**To:** Irving, Bill; Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Epanchin, Pete; Kocchi, Suzanne  
**Sent:** 5/28/2013 9:51:27 AM  
**Subject:** RE: Draft of the Accounting Framework main document  
**Attachments:** AF2 main body\_5 17 2013\_clean with comments (2) BI - aaf.docx

A few more edits on the baseline section that I've added to the version Bill sent.

Allen

---

**From:** Irving, Bill  
**Sent:** Monday, May 27, 2013 5:58 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Sherry, Christopher; Epanchin, Pete; Kocchi, Suzanne; Fawcett, Allen  
**Subject:** RE: Draft of the Accounting Framework main document

All

Another fairly extensive set of comments attached, building off the significant advances in clarity and readability made by the team in the latest round of revisions.

I think it would be useful to have a check in this week for those team members who are in, and including Suzie and Allen. There are still a few general issues that require some discussion.

Paul told me last week that he knows and appreciates that the team is working hard to get it done on a tight schedule, but prefers that we take the time needed to get him a version that is in as good of a condition as possible.

Jen or Chris - can you set something up for this week?

Bill

---

**From:** Jenkins, Jennifer  
**To:** Kocchi, Suzanne; Irving, Bill; Fawcett, Allen  
**CC:** Epanchin, Pete; Ohrel, Sara; Sherry, Christopher  
**Sent:** 5/8/2013 9:46:37 PM  
**Subject:** next draft of AF2  
**Attachments:** AF2 main body clean no\_comments 5.8.2013.docx; AF2 main body clean with\_comments\_5.8.2013.docx; AF2 main body tracked with\_comments\_5.8.2013.docx

Bill, Allen, and Suzie:

Attached please find three versions of the next draft AF2, for your review. I am attaching all three so that you can decide which version you'd like to read this time around -- the tracked version is messy, but might be helpful to see the edits we made in response to your previous review. The "clean with comments" version has the line edits accepted, but retains the comments, and the "clean" version has neither line edits nor comments.

A couple of notes:

- Team Biomass is reviewing the Executive Summary now: we can send that to you on Monday so that you can take a look before it goes into Paul's version.

- Bill had suggested moving text around in the: **Ex. 5 - Deliberative**

## **Ex. 5 - Deliberative**

- A couple of placeholders here for additional text: for example, we probably need to add something on the **Ex. 5 - Deliberative** We will need to keep editing while you review, but can add those pieces next week.

We look forward to your comments, and we thank you for your review.

best  
Jen

Jennifer C. Jenkins, Ph.D.  
Climate Policy Branch  
Climate Change Division, Office of Atmospheric Programs  
US Environmental Protection Agency  
202-343-9361  
jenkins.jennifer@epa.gov

**From:** Jenkins, Jennifer  
**To:** Ohrel, Sara; Sherry, Christopher; Epanchin, Pete; Irving, Bill; Kocchi, Suzanne  
**CC:** Fawcett, Allen  
**Sent:** 5/6/2013 4:03:12 PM  
**Subject:** RE: CONFIRMED: meeting with Joshua Martin from Environmental Paper Network

Thanks Sara -

This is very helpful. I suggest that we plan to let them know at the beginning that we are in listening mode, and ask them to tell us what their major concerns are. Then, when/if they ask us these questions, we can ask them what they think we should do on each one.

## Ex. 5 - Deliberative

Jen

-----Original Appointment-----

**From:** Ohrel, Sara  
**Sent:** Monday, May 06, 2013 12:45 PM  
**To:** Sherry, Christopher; Jenkins, Jennifer; Epanchin, Pete; Irving, Bill; Kocchi, Suzanne  
**Cc:** Fawcett, Allen  
**Subject:** CONFIRMED: meeting with Joshua Martin from Environmental Paper Network  
**When:** Tuesday, May 07, 2013 3:00 PM-4:00 PM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** DCRoom1310L856p20PCPoly/DC-1310L-OAR

Hi all,

Joshua Martin will be visiting us tomorrow. It seems per the attached memo he just sent me that he will be joined by Tyson Miller from the Green Press Initiative ("committed to advancing sustainable patterns of production and consumption within the U.S. book and newspaper industries and within the paper industry at large";

<http://www.greenpressinitiative.org/>).

<< File: EPN-EPA-May7-2013.docx >> Here are the questions as outlined in the memo:

Below are some questions that I would like to discuss regarding the EPA's accounting framework and the three-year deferral (time permitting):

- 1. Is there any update on the timing of the process? Should we expect a public comment period this summer or fall on a final framework?*
- 2. How is the EPA currently planning to address emissions from burning manufacturing byproducts in the forest products industry, including black liquor and wood waste?*
- 3. Has the team at EPA determined if it will pursue an approach that goes beyond the smokestack and considers the landscape, or if it will interpret it as a statutory requirement of the Clean Air Act to limit permitting to smokestack emissions.*
- 4. If the EPA proposes a framework and take a landscape approach, will it be including either (a) the estimated "opportunity cost" of forgone growth and carbon storage in the undisturbed forest or (b) Roger Sedjo's of RFF's proposed methods for accounting for forest expansion from market signals.*
- 5. Assuming the research discussed above is sound, and the landscape carbon cost over a 40 year timeframe amount to something near to our results, how might that affect EPA's framework?*
- 6. How can we create a policy that incentivizes efficiency and not just conversion energy that produces biogenic emissions no matter what the source. How can we create a framework and rule that doesn't justify bad policy like taxpayer subsidies for renewable energy portfolios going to pay paper mills to keep burning black liquor?*

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**From:** Jenkins, Jennifer  
**To:** Sherry, Christopher; Ohrel, Sara; Epanchin, Pete; Fawcett, Allen; Irving, Bill; Kocchi, Suzanne  
**Sent:** 5/1/2013 11:47:50 AM  
**Subject:** agenda: check-in on AF2

All:

Here is a quick agenda for our meeting at noon to discuss AF2:

# Ex. 5 - Deliberative

Jennifer C. Jenkins, Ph.D.  
Climate Policy Branch  
Climate Change Division, Office of Atmospheric Programs  
US Environmental Protection Agency  
202-343-9361  
jenkins.jennifer@epa.gov

---

**From:** Fawcett, Allen  
**To:** Irving, Bill  
**CC:** Kocchi, Suzanne  
**Sent:** 4/25/2013 4:12:09 PM  
**Subject:** RE: Revised Part II Section 2  
**Attachments:** AF2 main body 4 22 2013 with\_comments (BI) (sk) (aaf).docx

Bill,

Here's a version with Suzie and my edits.

Allen

---

**From:** Irving, Bill  
**Sent:** Tuesday, April 23, 2013 11:14 PM  
**To:** Jenkins, Jennifer; Sherry, Christopher; Ohrel, Sara; Epanchin, Pete  
**Subject:** RE: Revised Part II Section 2

All - here are my edits & comments on Part II, Section 1. I hope to have comments on section 2 by the end of the day on Friday, but it will depend on how fast it goes.

## Ex. 5 - Deliberative

My main substantive general comment is

Ex. 5 - Deliberative

## Ex. 5 - Deliberative

Also, I'm going to check in with Paul on schedule, but my recommendation is that we do as much as we can to get the text ready prior to giving it to him for review. This approach may mean that we don't give it to him next week as set in the schedule.

Bill

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**From:** Jenkins, Jennifer  
**Sent:** Friday, April 19, 2013 5:00 PM  
**To:** Sherry, Christopher; Ohrel, Sara; Epanchin, Pete  
**Cc:** Irving, Bill  
**Subject:** RE: Revised Part II Section 2

Thanks Chris!

Bill, this new version should replace the Section 2 text in the Part II version that I sent to you for review on Sunday. ICF is also working on pieces of Part II, so when we get that piece back (should be within the next couple of hours) I will send out an updated, complete draft of Part II, so that you can have it all in one place.

Jen

---

**From:** Sherry, Christopher

**Sent:** Friday, April 19, 2013 1:32 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Epanchin, Pete  
**Cc:** Irving, Bill  
**Subject:** Revised Part II Section 2

Team,

Here is the revised version of Part II Section 2, based on this morning's conversation about the description of LAR. Note, in the redline version, you'll see some other changes, as I had the opportunity to review the previous draft that I had sent to Jen last week – so some other clean-up in the first half of the draft (nothing major). Didn't have a chance to do similar review of the second half.

Chris

Christopher Sherry  
Climate Change Division, Climate Policy Branch  
U.S. Environmental Protection Agency  
Phone: 202-343-9530  
Mobile: 202-340-3379  
[sherry.chris@epa.gov](mailto:sherry.chris@epa.gov)

---

**From:** Fawcett, Allen  
**To:** Kocchi, Suzanne  
**Sent:** 4/25/2013 11:30:07 AM  
**Subject:** RE: Revised Part II Section 2  
**Attachments:** AF2 main body 4 22 2013 with\_comments (BI) (aaf).docx

Suzie,

Here are my edits so far. I've just made it through section I with some minor comments.

Allen

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**From:** Kocchi, Suzanne  
**Sent:** Thursday, April 25, 2013 8:49 AM  
**To:** Fawcett, Allen  
**Subject:** FW: Revised Part II Section 2

Bill texted me and said this would definitely benefit from our review. I am going to try to do it today because I am out tomorrow. Are you in tmrw? Do you want to take it from me?

---

**From:** Irving, Bill  
**Sent:** Wednesday, April 24, 2013 8:34 AM  
**To:** Kocchi, Suzanne  
**Subject:** FW: Revised Part II Section 2

In case you want to start with my version.

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**From:** Irving, Bill  
**Sent:** Tuesday, April 23, 2013 11:14 PM  
**To:** Jenkins, Jennifer; Sherry, Christopher; Ohrel, Sara; Epanchin, Pete  
**Subject:** RE: Revised Part II Section 2

All - here are my edits & comments on Part II, Section 1. I hope to have comments on section 2 by the end of the day on Friday, but it will depend on how fast it goes.

Overall this version

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

My main substantive general comment is

Ex. 5 - Deliberative

**Ex. 5 - Deliberative**

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Bill

---

**From:** Jenkins, Jennifer  
**Sent:** Friday, April 19, 2013 5:00 PM  
**To:** Sherry, Christopher; Ohrel, Sara; Epanchin, Pete



**Cc:** Irving, Bill  
**Subject:** RE: Revised Part II Section 2

Thanks Chris!

Bill, this new version should replace the Section 2 text in the Part II version that I sent to you for review on Sunday. ICF is also working on pieces of Part II, so when we get that piece back (should be within the next couple of hours) I will send out an updated, complete draft of Part II, so that you can have it all in one place.

Jen

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**From:** Sherry, Christopher  
**Sent:** Friday, April 19, 2013 1:32 PM  
**To:** Jenkins, Jennifer; Ohrel, Sara; Epanchin, Pete  
**Cc:** Irving, Bill  
**Subject:** Revised Part II Section 2

Team,

Here is the revised version of Part II Section 2, based on this morning's conversation about the description of LAR. Note, in the redline version, you'll see some other changes, as I had the opportunity to review the previous draft that I had sent to Jen last week – so some other clean-up in the first half of the draft (nothing major). Didn't have a chance to do similar review of the second half.

Chris

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